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Backwoods Home magazine

practical ideas for self-reliant living

Battery powered retreat

A baby quilt to remember
Creating your own job
Solar battery charging
A chicken coop home
Wild flower buds
Lyme disease
Firewood

www.backwoodshome.com

Backwoods Home Magazine is written for people who have a desire to pursue personal independence, self sufficiency, and their dreams. It offers "how to" articles on owner-built housing, independent energy, gardening, health, self-employment, country living, and other topics related to an independent and self-reliant lifestyle.

Publisher/Editor: Dave Duffy
Art Director: Don Childers
Senior Editor: John Silveira
Gun Editor: Massad Ayoob
Business Manager: Ilene Duffy
National Advertising Director: Ron Graham
Webmaster: Oliver Del Signore
Administrative Assistants: Nathele Graham,
 Muriel Sutherland, Lisa Nourse, Edwina Gower

CONTRIBUTORS:

Jackie Clay, Massad Ayoob, Robert Waters, Claire Wolfe, Gary F. Arnet, D.D.S., Chuck Davis, Jeffrey R. Yago, Tom R. Kovach, Pete Earl, Phil Nichols, Bill Wilson, Marcia E. Brown, Linda Gabris, Alice B. Yeager, James O. Yeager, O.E. MacDougal

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DEPARTMENTS

- 8 **Publisher's Note**
 - 9 **Editorial:** "I stink!" but that's okay
 - 78 **Ask Jackie:** Chokecherries, chicken runs, keeping lard, canning potatoes, "moving out," root cellaring potatoes, fried pea patties...and more
 - 23 **Ayoob on Firearms:** 1911: the classic homeland security pistol
 - 33 **The gee-whiz! page**
 - 73 **Book review:** Mad About Physics
 - 74 **Living the outlaw life:** Credit card monte: finance flim-flam and how to foil it
 - 84 **Letters**
 - 90 **Classified ads**
 - 90 **Classified advertising form**
 - 93 **Advertiser Index**
 - 94 **The last word:** Gun control, race, and rotten politicians
 - 95 **BHM bookstore**
 - 96-97 **Order form/Subscription information**
 - 98-99 **BHM anthologies & CD-ROMs**
- For a subscription
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ABOUT THE COVER

The cover comes from Jeff Yago's article "Battery powered weekend retreat" beginning on page 10. The retreat is located on several acres of beautiful deep forest wilderness along a fast-moving year-round fishing stream near the Virginia-Tennessee border. The building is a 900-square foot, two-story lodge with a large open deck that extends right up to the water's edge. The retreat's power comes from a generator system Jeff installed, along with a small solar charger to keep the batteries topped off.



FEATURES

Self-reliance

- 16 **Lyme disease** By Gary F. Arnet, D.D.S.
Lyme disease can be a debilitating disease if left untreated. Dr. Arnet explains how to recognize its symptoms, what kind of treatments work for it, and how to avoid it in the first place.
- 28 **Creating your own job** By Gary F. Arnet
- 35 **Harvest your own firewood** By Pete Earl
- 39 **The art of wood splitting** By Phil Nichols
- 49 **Harvesting the wild: Flower buds** By Jackie Clay
- 66 **How to make money from storage building auctions** By Bill Wilson
- 69 **Chapter 5: Home intrusions** By Robert Waters



Independent energy

- 10 **Battery powered weekend retreat** By Jeffrey R. Yago, P.E., CEM
Jeff Yago's client wanted a small power system for his weekend retreat that is located well away from the power grid. Because of location, solar as a sole source was out of the question. Jeff's solution was a combination of energy saving devices, a bank of batteries, and a hybrid power system that included a small solar array and a generator.
- 44 **Standby battery charging techniques can ensure engine startups** By Jeffrey R. Yago, P.E., CEM



Food and recipes

- 22 **Piccalilli — a late summer bonus** By Marcia E. Brown
- 34 **Venison burger chow mein** By Tom R. Kovach

Building and tools

- 58 **Life in a chicken coop** By Chuck Davis

Crafts

- 52 **Sew a baby quilt in two days**
...for a lifetime of memories By Ilene Duffy

Hunting and firearms

- 54 **Grouse hunting...the ultimate joy of autumn** By Linda Gabris

Farm and garden

- 60 **For health, pleasure, and relaxation, gardening rules** By Alice B. Yeager
- 48 **Keeping cats out of the garden** By Tom R. Kovach
- 48 **Black walnut warning** By Tom R. Kovach



Publisher's Note

Mousers and cat loonies

I must really be old fashioned. I live in the country and have plenty of rodents running around, just like many of you, so I need a few mousers to keep things under control. It's a great life for a cat. They've got so many things to hunt they hardly bother with their cat food. But the cats themselves sometimes get picked off by a bobcat, owl, or mountain lion, so you have to replace them now and then.

That's the situation I was in recently, so I looked around for a cat at an obvious place—the nearest animal shelter. After picking out a couple of nice kitties that I knew would love my barn and its inhabitants, the smiling lady cat attendant handed me a piece of paper and said I had to read and sign it. It was a contract promising not to abuse the cats. No problem; I like cats. But above where I was to sign was a statement giving them permission for one year to come into my house any time, without warning, so they could inspect it to make sure the cats had a good environment.

I looked at the attendant with more than a little surprise on my face and read that part of the contract to her and said, "That's just a joke right?"

"No it's not," she said firmly. "We need to know that these cats are going to a good home."

I half smiled and half laughed at her. "But you're talking about me giving you the right to come into my home, at any time, unannounced. Into my personal home?"

"That's right," she said with an authority that made me think of an old East German matron from the days when East German women athletes all looked like brick layers.

By the stern look on her face I knew she would not be receptive to me expounding on the importance of privacy and the sanctity of one's home, so I said as politely as I could that I would try and find cats elsewhere.

A day or so later I answered an ad in the paper by a lady who was selling cats, and subsequently went to a house where at least 15 cats were crawling all over the furniture and a meekish looking husband. She wanted \$10 per cat and told me the cats were accustomed to being indoors and under no circumstances were they to be allowed outside at night. Then she produced the same piece of paper that the cat lady Gestapo matron had asked me to sign.

What the hell is going on? All I want is a couple of mousers. My daughter finally dropped off a couple of cats on a visit, and they worked out just fine, until one was taken by an owl and the other by a bobcat. But they had a great life while it lasted. Of course that's probably at least part of what's behind these cat contracts; no one wants to put the kitties at risk of being eaten by cat predators. Plus the cat loony activists out there are probably sincerely on

the lookout for people like me who insist their cats live outdoors *all the time*.

Here's the way I see it: Cats are predators of mice, rats, moles, gophers, and other little things that are troublesome to a country dweller like me. In exchange for their service at controlling pests, I give my cats the best cat food I can find, a nice home in my barn, and lots of pets and scratches on the head. I've had lots of cats and the outdoor ones have always, without exception, been healthier than the indoor ones.

My old cat, Champagne, was 14 when I had to have him put down because he could no longer eat or walk. But those 14 years were full of great hunting and adventure; I couldn't begin to count the number of mice he left at my front door. He wouldn't think of sleeping indoors at night, because he owned the night, prowling and stalking like the practiced feline he was born to be.

Sure, some of my other cats became a midnight snack for an owl or a roving bobcat, but that's part of the country calculation for pets. Sometimes dogs get taken by mountain lions too. But the life these pets have while it lasts is great, surely a lot better than that of housebound city cats where they are not allowed to practice most of their instinctive hunting and stalking behavior.

These cat loonies are dooming a lot of unwanted cats with their contracts to inspect people's homes. I want cats, and so do most country folks. But the only contract we want is the traditional unspoken one whereby the cat catches pests in exchange for room and board. That's a great contract, a perfect symbiotic relationship. The cat gets to live a *natural life* with its occasional perils of owls and bobcats, plus they get the added benefit of contact with a caring human, which is an especially handy thing when a vet is required.

Cat loony activists need to get a life.

U.S. Marines, a CD-ROM, and Fox News

Last issue I mentioned a CD-ROM we were producing that chronicled the activities of the 3rd LAR Battalion of the U.S. Marines during *Operation Iraqi Freedom*. The CD-ROM is finished, but unfortunately we can't give it to the marines because *Fox News* won't give us permission to use their video clips. It had never occurred to me that *Fox* might object to what is essentially a public service on our part, but they have. I got a letter from their top lawyer specifically denying me permission. Sorry Marines. *Fox* still did a great job covering the war.

Meanwhile my son-in-law, Marine LCpl Erik Tuttle, has returned home from Iraq with some great stories. One of the best was about how his battalion hadn't taken a shower in two months. He said, "We knew we were smelling bad when the Iraqis would come up to us and spray us with cologne."

— Dave

My view

“I stink!” but that’s okay

There are valuable life lessons to be learned from realizing you’re not very good at a lot of things, even at things you think are important to be good at.

My lessons began in 1959, when I was 15. As a third string quarterback for Cathedral High School in Boston, I really wanted to be a great football player, but as I sat in the half time locker room of Franklin Field, with our team being massacred by powerful Matignon 50-something to nothing, things seemed bleak. Coach Tatter, who would never recognize my talents, looked down at our silent, sullen faces for only a few seconds before he bellowed, “We stink!” I can’t remember the rest of the pep talk, but it was brief.

I knew he was right, and if “we stank,” I must really have stunk because I was third string. Matignon, lead by future pro quarterback Jack Concannon, continued to pound us the second half, and we lost by the score of 90 to 6. The coach did not speak to us after the game, and I quit the team next year because I couldn’t endure the embarrassment of being third string on a lousy team in my senior year. I wasn’t convinced then that I stunk, but I had my suspicions.

Now that I am 59, and having spent a lifetime testing myself at various sports without success, I have taken up my final sport, golf, on the theory that it will reduce stress and improve my health. I had played golf years before, poorly, but this time around I took lessons from a teaching pro. It became apparent to me immediately that I was better than I had been years before. In fact, I thought I was so good that I forgot all about my stress and told my wife I would master the game, then join the *Pro Senior Tour* and make my retirement living that way. She believed me and bought me a set of “professionally fitted” golf clubs for Christmas.

It’s been a year now, with several sets of lessons from the pro having been diligently digested and practiced, and the stress that led me to the game has been forgotten as I continue to immerse myself in the joy of playing. But my game has not reached the pro level. In fact, I am not very good at all. Progress comes slowly, almost imperceptibly, and despite my ardent practice, some days my golf absolutely stinks. At my local course, called *Salmon Run*, which admittedly is a tough Oregon woods and ferns-lined course where the slightest deviation from the fairway means a lost ball, I lose an average of 30 balls per round. Luckily I’ve found a place to buy good used balls for 33 cents each.

A few months ago I began to suspect I would never get very good at golf. And in the last few weeks I have begun to accept what last year was the unthinkable: I stink at golf too.

But unlike high school football where my personal esteem was founded upon youthful pursuits, I’ve decided it’s okay that I stink at golf, and I plan to increase my participation in this enjoyable, relaxing sport.

I generally take my three young sons with me, and I pay them whenever they do well: a dollar for bogey, \$2 for par, and \$5 for birdie. Only one, Robby, has ever collected on a birdie as they show signs of having talents similar to mine.

But golf got me to thinking. I’ve stunk at a lot of things like golf, but I’ve succeeded at other, more mundane things, like being a good father and a good husband.

In the sometimes difficult transition from failed high school quarterback through failed golf pro, I’ve finally come to understand that failure is only a rudder that steers you towards success. Each failure turned me towards something else. When I failed at football, I turned to track in college. When I failed at both track and college, I turned to U.S. Army enlistment, and when I failed at that (I at least got an honorable discharge), I became a newspaper reporter, where I finally found moderate success. Then I became a Defense Department technical writer, with a little more success, and finally this magazine’s publisher, which is a total success. I just had to be patient, I realize, not get down on myself, not blame others for my failures, and keep trying.

Mr. Tatter was right when he told us high school athletes that we stank, but he probably should have added the caveat: “But don’t worry about it. Life’s going to be full of these shellackings. Just go out the second half and give it all you can.”

I’ve been examining my life with its failures and successes lately, in part because I have partially retired from the magazine so I have more time to engage in such retirement pastimes as reflection. I think it was Shakespeare who said, “It is far better to have stunk at golf, than to have failed at life.”

Or was that Homer? — **Dave Duffy**



Dave Duffy



Battery powered weekend retreat

By Jeffrey R. Yago, P.E., CEM

Blake McKinney owned several acres of beautiful deep forest wilderness along a fast-moving year-round fishing stream that was perfect for a planned weekend retreat. Mr. McKinney, an attorney in western Virginia, had purchased this property located along the Virginia-Tennessee border with the hope of building a small weekend cabin his family and friends could use away from the city.

He found the perfect plans for a 900-square foot, two-story lodge with a large open deck that would extend right up to the water's edge. The cathedral ceiling living room with large wood-burning fireplace would

become their entertainment center. Although the kitchen, dining area, two bathrooms, and three bedrooms were kept relatively small to stay within the small building footprint, they would still provide separation and privacy for friends and family wanting to "rough it."

Building on a rocky valley floor along this ancient creek bed would not allow digging a basement, but the desire to keep above the level of low-land flooding resulted in building the first floor above a five-foot high crawl space. Although not high enough to stand up in, the added concrete floor and access door provide a

good dry storage area for all that fishing gear.

The McKinney family wanted to keep the rustic feel of the original forest, so the house site was selected to avoid cutting any large trees, and the undisturbed heavy ground cover of pine needles assured that Blake would not be doing any yard work. As all good intentions go, however, there was a very big problem with this plan, which is what got me involved in the story.

Their property was one of the many old homesteads that became "land islands" years ago when the National Forests were created around them, so now the thousands of acres of



Rear deck steps lead down to the water's edge.

restricted public land use has effectively blocked all utility line access. This would mean no all-electric kitchen, no central HVAC system, no major appliances, and no video games. When I first met Blake, the cabin was almost completed on the outside, but the electrician had stopped all work since there was no utility power for him to connect.

Selecting a system

Anything can be powered by the sun in my work, but when I visited the site for the first time it was obvious the location at the base of a high mountain range blocking the south exposure and nestled among extremely tall pine trees told me any serious solar power system was out of the question. It was determined that a generator would be required, but nobody wanted to hear one operating constantly all weekend.

We decided the best solution would be a hybrid power system, having all 120-Volt AC appliances powered from a Trace 4 kW sine wave invert-

er, with the inverter connected to 12 industrial L-16 size batteries wired in series-parallel to provide a 24-volt DC output.

An insulated plywood battery enclosure was built around the battery bank in the crawl space that includes an outside vent pipe to exhaust any battery gasses generated during the charging process. We selected an 8.5 kW Kohler 1,800-RPM propane fueled generator to charge the batteries, and a large underground propane tank would provide months of maintenance free fuel. It was possible to use a smaller generator, but the higher amperage capacity of this generator provides faster battery charging and longer quiet time between charging.

The south-facing roof only had enough unshad-

ed area for a small 150-watt solar array, barely enough to offset the battery bank's self-discharging during weeks of un-occupancy. The limited sun hours each day would be partially offset by the many days between cabin occupancy.

Blake and I agreed that for this concept to work, he must purchase the most energy saving lights, appliances, and HVAC systems available; otherwise, his generator would need to run continuously. Although I designed the home's power system and supplied all of this equipment, a local electrician provided the actual equipment installation and wiring. After the installation was finished, we provided the system startup service and programmed the inverter to maximize the generator powered battery charging process.

Selecting appliances

All lighting installed was compact fluorescent and T-8 tube high efficiency fixtures with full-color spectrum lamps. Realizing that the inverter would shut down anytime the battery voltage dropped too low during these long unattended periods, we decided to install a few 24-volt DC



Inverter power system mounted on the back wall of the battery box

lighting fixtures at key locations including stairwells, corridors, and over the system control panel. This would provide basic lighting until the generator was restarted to bring the cabin back to life. Nobody wanted to have television or video equipment during these get-away weekends, and the cool deep woods guaranteed air conditioning would not be needed. The large fireplace would provide all required heating, but hot showers and a fully functioning kitchen would be mandatory.

We decided the long unoccupied periods would make a conventional hot water heater impractical even if it was supplied from the large underground propane tank for the genera-



AquaStar instantaneous domestic hot water

tor, so we installed an AquaStar instantaneous propane hot water heater. This 125,000 BTU hot water heater can heat a continuous 2 gal/min flow of 50-degree ground water without any storage tank instantly up to 140 degrees for as long as you keep the faucet open, and will still shut-off the instant the water flow stops. I have seen this same unit

supplying scalding water for two simultaneous showers in the dead of winter.

We had intended to utilize this water heater to also heat a small piping loop of baseboard hot water radiation around the perimeter walls of the ground floor rooms, but decided the potential for pipe freezing during long periods of unoccupancy was too risky. Since the large fireplace would provide the serious heating during occupancy, it was decided to install a small in-wall forced air propane heater which included a small supply duct down under the floor to also heat the water piping and storage battery areas.

Although intended to operate only long enough to take the initial chill off the cabin until a fire could be started in the fireplace, a low limit thermostat allows the heater to restart if near freezing temperatures are reached inside the cabin or around the heavily insulated battery box in the crawl space.

Now that these lighting, heating, and hot water issues had been resolved, it was time to tackle the kitchen. A modern four-burner gas stove and oven was ordered with older design pilot lights instead of complex electronic controls and high-energy usage electric glow plugs. This would solve the cooking issue.

Now for the refrigerator. Since they will bring the refrigerated foods and drinks needed each weekend, keeping lots of foods cold for long periods was not necessary. We also realized the refrigerator would be the largest energy using appliance in the cabin



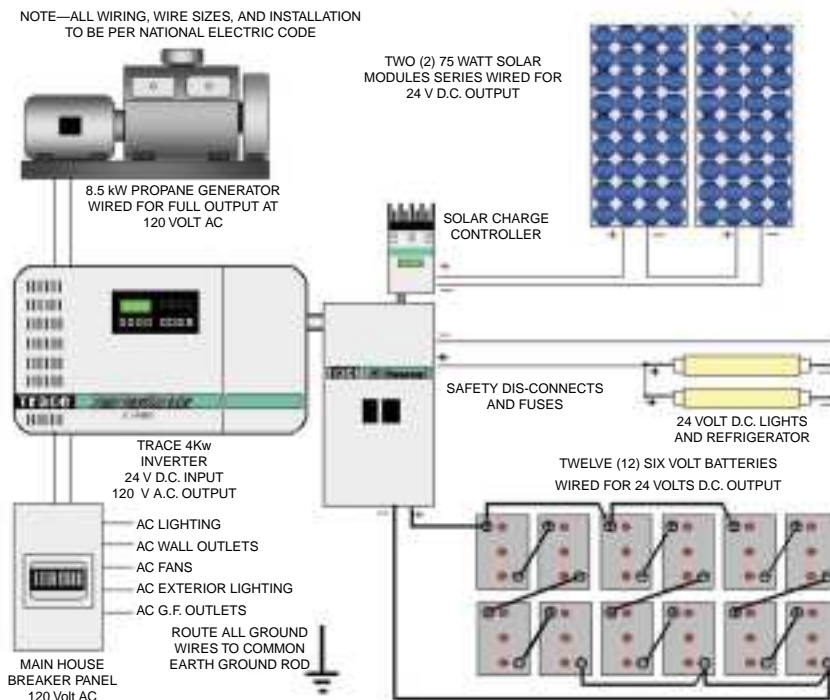
Pad-mounted Electric Start Kohler 8.5 kW propane generator

and we didn't want to operate the generator during weeks of un-occupancy just to keep a few things cold. We decided to install a 24-volt DC Sunfrost 12 cu. ft. refrigerator freezer.

This is the most energy efficient refrigerator made and its heavily insulated walls insure the small dual compressors will operate much less



Sunfrost 24-volt DC refrigerator



Wiring diagram

than a conventional refrigerator. We chose this DC model since it could be powered directly from the 24-volt battery bank, avoiding the need to operate the inverter with its associated standby losses during long periods of unoccupancy.

Controlling the system

The final issue was to decide how this system would be controlled, since the intent was to provide a home away from home without spending the weekend servicing complex electrical equipment. A remote system monitor and inverter control panel were installed near the front door. This control system is capable of fully automatic operation of the generator and the battery charging process; however, it was decided to not operate the generator in automatic mode when the cabin is not occupied since any generator starting problem would not be observed and could damage the generator.

Upon first arrival, a check of the display panel may show the solar

maintained batteries are still low and in need of charging. By manually pressing a button on this display panel, the generator is started and the inverter comes to life putting as much charge as possible back into the batteries. Since it will take this generator about three hours to fully recharge the batteries, this is the best time to operate any high-energy usage appliances like the warm up gas furnace, kitchen appliances, or power tools directly from the generator. By nightfall the batteries will be recharged and the inverter will shut down the generator for a nice quiet evening.

Depending on how long the cabin was unoccupied and the current weather conditions, it may be possible to go through the entire weekend without restarting the generator. However, it is a good practice to bring the batteries back to full charge just before "check out" time. Hopefully, with enough sun, the small solar array will offset the standby battery losses and the electrical

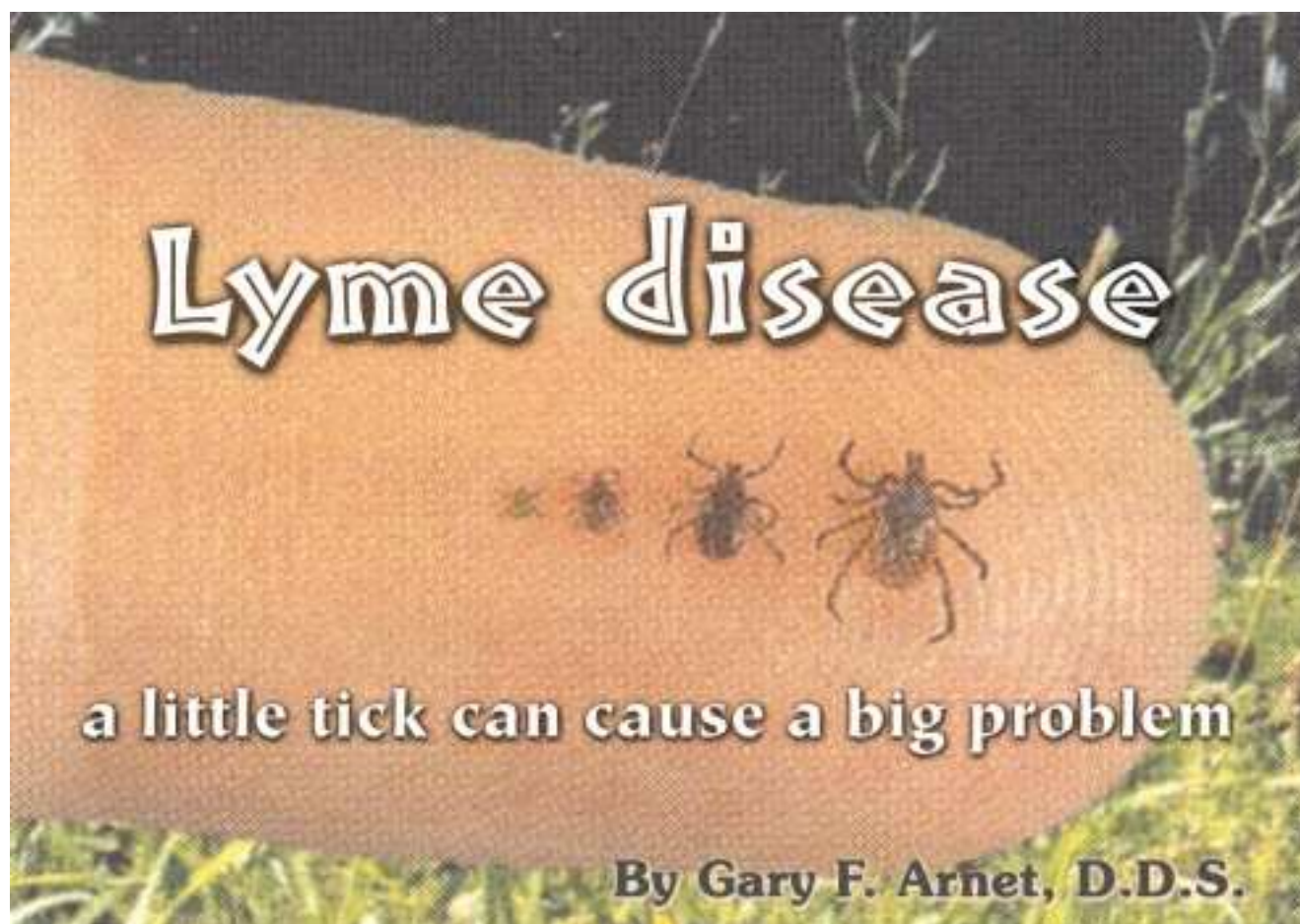
usage of the DC refrigerator until the next weekend or holiday visit.

More and more people are buying rural property to have a retreat from city life, but still want the comfort and labor saving conveniences of modern appliances. If you are buying property in an area not served by utility lines, perhaps a hybrid solar-generator-battery power system will fit your needs too.

(Jeff Yago's latest text titled, *Achieving Energy Independence—One Step At A Time*, provides a very good introduction to off-grid living and battery based power systems. It is available from the *Backwoods Home Magazine's* Bookstore or by calling 804-784-0063. The off grid power and solar equipment described in this article are available from Dunimis Technology Inc. at www.pvforyou.com or by calling 804-784-0063.) Δ

Backwoods Home Magazine is planning to feature reader submitted photos of their recently completed off-grid solar homes and weekend retreats in upcoming issues. If you have a unique solar thermal or solar photovoltaic application and would like to share it with others, please submit color photos and a brief description of your system and how it works. Submit your entries to Editor, *BHM*, P.O. Box 712, Gold Beach, OR 97444. One entry will be selected each issue and will receive a **\$100** gift certificate to our bookstore.

We would also like to announce a new Solar Energy Questions area that will be added to our Letters to the Editor page. We will provide answers to both general and specific application questions related to your planned solar system, solar equipment selection, and troubleshooting problems with existing solar systems. Send your questions to P.O. Box 712, Gold Beach, OR 97444.



Ticks that cause Lyme disease are smaller than more common ticks. Juvenile ticks, called nymphs, are only the size of a poppy seed, while adult females are the size of a sesame seed. From left to right, larva, nymph, adult male, and adult female stages are shown on a finger. (Courtesy of California Department of Health Services)

Kyle was an active 12-year-old boy who spent summers hiking, fishing, and enjoying the outdoors when he lived in a rural area of Butte County in northern California. That was until he developed a form of juvenile arthritis that was so severe he couldn't go outside. Doctor after doctor couldn't determine what was wrong, until one finally made the diagnosis. Kyle had an advanced stage of Lyme disease.

Lyme disease is a serious bacterial infection transmitted by certain infected ticks. The 1,990 people who lived in Lyme, Connecticut, in 1975 were seeing a dramatic number of children with arthritic swelling of

joints that would come and go. Physicians said the children had juvenile arthritis, but mothers disagreed, insisting it must be infectious because so many children were affected.

They were right. Further research determined this was a bacterial infection transmitted by deer ticks, which was subsequently named Lyme disease after the town.

Ticks are parasites that feed on another animal host. They belong to the arachnid family and are related to scorpions and spiders, not insects. In addition to Lyme disease, ticks cause at least nine other human diseases in the United States.

The deer tick (*Ixodes scapularis*) in the northeast and north central states,

and the Western black-legged tick (*Ixodes pacificus*) in the western states, are the carriers for *Borrelia burgdorferi*, a type of spirochete bacterium that causes Lyme disease. Smaller than the common cattle or dog tick, these ticks need to host on the blood of birds, reptiles, or mammals, including humans, to grow and reproduce. They transfer the bacterium between host animals.

Over 145,000 cases of Lyme disease have been reported in the United States since 1982, with 17,730 reported to the Centers for Disease Control (CDC) in 2000. Each year the number of new cases increase and Lyme disease has now been reported in 48 states and the District of Columbia.



*Map of the geographical distribution of Lyme disease in the United States
(Courtesy of the U.S. Centers for Disease Control)*

Most of the cases are concentrated along the East Coast, the Great Lakes, and the Pacific Northwest. Ninety percent of the cases are in 10 states, the vast majority being found in New York, Connecticut, Pennsylvania, and New Jersey. Northern California and Oregon account for the majority of cases on the West Coast. The geographical location of the disease is slowly increasing from current locations.

Since it was discovered, Lyme disease has increased dramatically and is a major health concern in certain areas of the United States. It is a multi-system inflammatory disease that affects the skin in early stages and spreads to the joints, nervous system, and organs in later stages. It can be readily cured if treated with antibiotics early, but can be crippling and linger for months or years if it becomes chronic. The best treatment for Lyme disease is to avoid catching it in the first place.

Symptoms

Many people do not remember being bitten by an infected tick. The first symptom in 80% to 90% of people is an expanding rash that develops from 3 to 30 days after the bite.

Called erythema migrans in medical terms, it appears either as a solid red rash or as a central red spot surrounded by normal skin which itself is surrounded by another ring of red rash. Sometimes called a bull's eye rash, it is usually about five to six inches in diameter, although it may be larger. It is not itchy or painful and may last for three to five weeks.

Other symptoms such as fever, chills, joint pain, swollen lymph nodes, and fatigue are common about the time the rash appears. They are often mild and brief, not seeming serious enough to warrant medical care. Antibiotic treatment with doxycycline or amoxicillin for three to four weeks is generally effective in curing the disease at this early stage.

Many other serious symptoms develop as Lyme disease progresses. These potentially debilitating symptoms may occur weeks, months, or occasionally years after the bite. They may include severe fatigue, numbness or tingling of the extremities, facial paralysis, severe headaches, painful arthritis, joint swelling, mental disorders, and cardiac abnormalities. Intravenous antibiotics may be required for four weeks or more,

although this treatment may still fail to cure the disease.

The best way to prevent Lyme disease is to understand the deer tick and Western black-legged tick and to avoid them. If you cannot avoid their habitat, take precautions to prevent ticks from attaching to your skin.

Tick ecology

Ticks have four life stages over a period of two years and must feed on blood from a host at three times in their life cycle in order to develop. In late summer, very young ticks, called larvae, hatch from eggs and pick up the *Borrelia burgdorferi* bacteria by biting infected animals. They then drop from the host and find a protected site under leaves to pass the winter. Larvae are a light tan, translucent color about the size of the period at the end of this sentence.

Late the next spring or summer, juvenile ticks, called nymphs, rise



Hikers, campers, fishermen, and anyone else who works, lives, or vacations in many areas of the United States are at risk for contracting Lyme disease unless they take precautions.

from the ground to search for a suitable feeding site. Blackish in color and about the size of a poppy seed, they wait on vegetation from ground level to 18 inches high. They attach to passing animals, especially white-footed mice in the east and western fence lizards in the west. After feeding for five to six days, they drop to the ground to find shelter under leaves or other vegetation. Nymphs account for most cases of Lyme disease and actively feed from April to August.

By late summer, nymphs molt into adult ticks. Females are brick-red and about the size of a sesame seed, while males are smaller and are black. Adult ticks occur in the fall and spring and again search for a blood meal in order for the eggs of the female to mature. For this blood meal they favor larger mammals such as deer and humans. They feed for 8-10 days, swelling to the size of a small pea. Female ticks drop off the animal after mating and lay eggs on the ground that take about two weeks to hatch.

Adult ticks may pass on Lyme disease to the host, but their size and longer feeding period makes them easier to detect and remove. They are active from October to November and again during April to May when the temperature is above 35° to 40° F.

The large incidence of Lyme disease in the east is due to the large numbers of white-footed mice and deer, the preferred hosts of the deer tick, and the proximity of humans who live and play in the same area. Nymphs feed on the white-footed mice which are the principal "reservoir" of the infection, while adults favor deer and other large mammals.

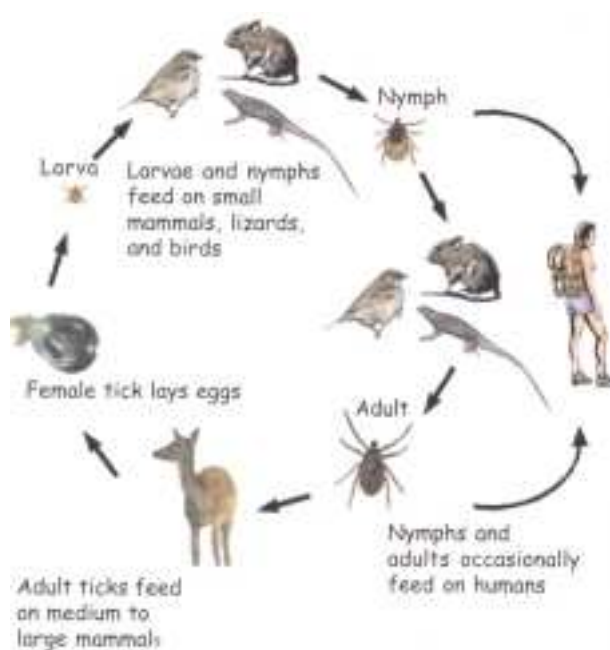
On the west coast, *Borrelia burgdorferi* is transmitted by the western black-legged tick. The mechanism of transmission of the disease from animal to animal is the same with the exception of one important fact. The favorite host of the tick in

the nymph stage is the western fence lizard. This lizard has been found to contain a substance in its blood that kills the Lyme disease spirochete. It renders the tick incapable of infecting its next host. For that reason, only 5% of adult western black-legged ticks carry the disease, while 50% of the adult deer ticks found in the east are infected. This is why the incidence of Lyme disease is lower in the west, where western fence lizards are common.

Ticks crawl to the tips of grasses and plants waiting for animals or humans to brush against the vegetation. They then attach themselves to the passing animal. They do not jump or fly.

Once on the host, they attach to skin and insert their barbed mouth through the skin to feed on blood while their bodies slowly enlarge. While they can attach anywhere, they most often attach to hidden, hairy areas such as the groin, armpits, back of the knee, nape of the neck, or scalp. If they first contact clothing, they will crawl upward in search of exposed skin. Ticks on the scalp have usually crawled there from other parts of the body.

A tick must be attached for at least 24 hours to transmit Lyme disease. Some studies report it requires 36 to 48 hours of attachment to pass on the disease, although health departments in some high-risk areas use 12 hours as a guide. Generally, a tick has not been on the host long enough to transmit Lyme disease if it is not yet swollen with blood. Therefore,



Life cycle of the western black-legged tick (Courtesy of California Department of Health Services)

promptly locating and removing the tick will reduce your chance of being infected.

Tick habitat

Hikers, campers, hunters, fishermen, outdoor workers, and others who frequent grassy or wooded outdoor areas are frequently exposed to ticks. Homeowners living in rural wooded areas are also commonly infected. Even people living in urban areas can be exposed in their yard if, for example, their dog brings home an infected tick that drops on their lawn. Playing in the yard or other contact with vegetation can result in exposure to ticks. Others at risk include travelers passing through an area and not being aware of the possibility of encountering infected ticks.

Ticks have been found from sea level to 7,000 feet. They are prevalent where there are abundant deer and rodent hosts, favoring a shaded, moist environment. Overgrown grassy areas, leaf litter, and low vegetation in brush or wooded areas are favorite habitats. Around a house, fallen leaves, debris, and woodpiles (often



Areas that attract deer, such as the edges of meadows, trails, and grassy areas, are the prime habitat to find adult ticks.

frequented by mice and other small mammals) are common places to find ticks. Likewise, stone walls attract small mammals and increase the chance of encountering ticks, especially in some areas of the northeast.

Leaf litter, such as oak leaf debris, is the prime location to encounter nymph-stage ticks from April to July. Seventy percent of the cases of Lyme disease occur during these months due to exposure to nymphs. Be careful in this habitat and avoid it if possible.

Deer habitat is another area to expect ticks which lie in wait for passing animals. Deer frequent ecotones, the junction of two ecology zones. They will often be found traveling near the edge of a grassy meadow surrounded by heavy brush, ready to hide in the protected brush at the first sign of a predator. Ticks also will be found in this area with the highest concentration being within an area about 10 feet from the edge.

Other common areas to find ticks are slopes that face south and slopes where there is difference in soil and vegetation. Along human or game trails, 80% to 90% of the ticks can be found on the uphill side of the trail.

Protecting yourself

The only way to completely prevent the chance of Lyme disease or other

tick-borne diseases is to avoid exposure to ticks. Understanding their life cycle and habitat is a start; however, other precautions are needed to avoid being bitten by a tick since it is not always possible to avoid their habitat.

Don't walk bare-legged in woods, tall grasses, or dunes where ticks may live. Wear light-colored long pants and a long-sleeved shirt made of a

tight weave material so that you can spot ticks easily. Wear enclosed shoes or boots and consider tucking your pants into your socks in high-risk areas. Stay on well-traveled, cleared trails, remembering that 80% to 90% of the ticks will be found on the uphill side of the trail. Avoid sitting on rock walls or on leaf littered ground. Check your clothes and exposed skin throughout the day for



Protect yourself from ticks that carry Lyme disease by wearing light-colored long pants, long-sleeved shirts, and enclosed shoes or boots. In high-risk areas, consider tucking your pants into your socks when walking through brush.

Things to remember about Lyme disease

- Lyme disease is transmitted by infected deer ticks in the east and western black-legged ticks in the west.
- Not all deer ticks or western black-legged ticks carry Lyme disease.
- Ticks must be attached to the host for at least 24 hours to pass on the disease.
- Nymph stage ticks are smaller and more likely to transmit the Lyme disease than adult ticks.
- Know the habitat where you can expect to find ticks.
- Use precautions when in "tick country" including proper clothing and repellants.
- Check yourself daily for ticks and remove any that are attached to decrease your chance of being infected with Lyme disease.

ticks, remembering that they climb upward in an attempt to find exposed skin. A final full-body check for ticks should be done at the end of each day. Remember, their favorite locations are hidden, hairy areas, such as the groin, armpits, back of the knee, nape of the neck, or scalp. Be sure to also check children and pets.

Insect repellants will also stop ticks from attaching to your skin. Clothes may be sprayed with insect repellants that contain diethyl-meta-toluamide (DEET) or Permethrin.

DEET may be used on clothes or skin in concentrations no greater than 10% to 15% on children and no greater than 30% to 35% on adults. Use just enough to cover exposed skin or clothes, but do not apply to skin that is covered by clothing. DEET may be applied every four to eight hours.

Permethrin repellants are for use on clothes only. Do not apply them to the skin. They should be applied to the outside of clothing before putting them on and allowed to dry outdoors for at least four hours before wearing. The clothes should not be treated more than once every two weeks.

Read the labels of any insect repellent carefully and follow the manufacturer's recommendations. Serious reactions to repellants may rarely occur. When used improperly with children, DEET products may cause slurred speech, confusion, seizures, and even coma.

When you return home, clothes can be spun for 20 minutes in the dryer for the heat to kill any ticks that were not noticed and a full-body check for ticks should again be performed.

If you live in a tick-infested environment, you can reduce the tick population around your home by clearing leaf litter, brush, and tall grass from around your house, rock walls, piles of wood, and the edges of gardens. Lawns should be kept mowed and edged. Any debris that could attract rodents and small mammals should be cleared. Woodpiles should be stacked neatly in a dry location off the ground.

A licensed professional can spray residential areas with an insecticide in late May to control nymphs and in September to control adults.



Remove a tick by grasping the mouth parts where they enter the skin with pointed tweezers and pulling outward with a steady motion until the tick is pulled out. Never grab the body. (Courtesy of California Department of Health Services)



Insect repellants in aerosol or lotion form will stop ticks from attaching to your skin. Repellants used on the skin should be no greater than 15% DEET for children and 35% DEET for adults. Aerosol Cutter Insect Repellent contains 9.5% DEET and would be good to use with children.

In the late 1990s, a vaccine called LYMERix was developed to prevent Lyme disease. The CDC Committee on Immunization Practices recommended the vaccine for persons age 15 to 70 who lived, worked, or vacationed in areas of high tick-infested habitat. In February 2002, the manufacturer removed it from the market citing poor sales. A complicating factor was that up to one-third of the population has a specific blood trait that put them at risk for developing an untreatable autoimmune arthritis from the vaccine.

Removing ticks

Don't panic if you find a tick attached to your skin, as not all ticks are infected and they usually need to be attached for at least 24 hours to transmit Lyme disease.

Remove the tick using pointed tweezers. Grasp the tick by the head or mouth parts where they enter the skin and pull the tick outward with a steady motion. Gradually increase the force until it is pulled out. Never grab the body, as the contents of the tick can be forced into the bite, increasing the chances of the tick transmitting

the disease. For the same reason, do not use a hot match, petroleum jelly, nail polish, alcohol, or any other irritant.

It is not a problem if part of the tick's mouth remains embedded in the skin, since the bacteria that cause Lyme disease are contained in the tick's body. Remove remaining mouth parts as you would remove a splinter by using a sterilized needle.

The tick can be taken to your local health department to identify the type of tick and to determine if it is infected with *Borrelia burgdorferi*. The tick should be placed in a sealed container or a sealed plastic bag along with a moist cotton ball or moist Kleenex. It must not be allowed to dry out or it cannot be tested. Contrary to what is often said, do not place the tick in alcohol if you plan to have it tested, as this will dry out the tick and make testing impossible. Take the tick to the health department in a timely manner.

The health department can examine the tick to determine if it is a deer tick in the east or western black-legged tick in the west. If it is, it can be sent for fluorescent antibody testing to determine if the *Borrelia burgdorferi* bacterium is present. This test is about 95% accurate in determining if the tick is infected.

Just because *Borrelia* is present in the tick doesn't mean it was transmitted to the person to whom it was attached. The health department will want to know how long you estimate it had been attached and the geographical location where you may have acquired it. Within a county, cer-

For additional information on Lyme disease

Center for Disease Control:
www.cdc.gov

American Lyme Disease
Foundation, Inc.:
<http://aldf.com>

tain tick populations are infected at higher rates than other areas.

Monitor the site of the bite for the next 3 to 30 days to watch for the appearance of a rash. Be aware of any other early symptoms such as fever, chills, joint pain, swollen lymph nodes, and fatigue. These may be mild and seem unimportant. See a physician immediately if any rash or other symptoms occur.

Lyme disease is certainly something you don't want. Knowledge and proper precautions can limit your risk. Know if the area you are in has ticks infected with Lyme disease, wear proper clothes, and use insect repellants. Check yourself, your children, and your pets regularly for ticks, and clear the area around your house and yard. Be aware of the early symptoms of Lyme disease and seek medical attention early if there is even the slightest chance you have been infected. Enjoy the outdoors, but take precautions to avoid being a victim of this disease. Δ

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Piccalilli - a late summer bonus

By Marcia E. Brown

Popularity of the movie *Fried Green Tomatoes* has sparked new interest the last few years in those ubiquitous green tomatoes that many gardeners have in plenty near the end of the growing season.

My grandmother, respected as both gardener and cook, welcomed those end-of-season hard, green fruits as more than a bonus. To her, they were jewels of the season.

Beyond frying them in batter for supper treats, each year she turned a peck of them into a large batch of piccalilli, one of our favorite relishes. By late August, jars of emerald piccalilli stood ready in her pantry not only to serve at family meals but also to be given as much welcomed gifts to friends at Christmas.

Grandma has been gone for nearly 50 years, but her special recipes continue to please. Written in her Victorian style handwriting, in faded pencil and in ink long browned by age, they fill a notebook that is one of my treasures. The piccalilli "receipts" are scribbled on a sheet of brittle paper, a bridge over time.

The results are as tasty today as they were when the tomatoes came from Grandma's own garden.

Grandma Emma's piccalilli

1 peck (8 quarts) green tomatoes, stemmed
¼ peck green bell peppers, stemmed
1 cup white onions, papery part peeled
3 lbs. cabbage
1 cup salt
1 cup white mustard seed
3 cups brown sugar
4 oz. stick cinnamon
3 oz. whole cloves
1 oz. allspice
vinegar

Put the tomatoes, peppers, onions, and cabbage through a food chopper or chop coarsely in a food processor. Mix the vegetables thoroughly.

In a large container of crockery or glass, spread the vegetable mix in layers, sprinkling each layer with some of the salt until it is all used.

Let the mixture stand overnight. Drain it the next day.



Tie the spices and mustard seed into a cheesecloth "bag." Place this with the drained vegetables into a large canning kettle. Cover with vinegar. Cook slowly over low heat for two hours, stirring frequently to prevent burning and sticking.

Fill sterilized canning jars with the mixture and seal according to the jar manufacturer's directions.

If she had enough green tomatoes, Grandma might also make a version without the cabbage.

Sliced tomato and onion pickle

1 peck green tomatoes, stem ends removed
2 qts. peeled white medium onions
1 cup salt
3 qts. vinegar
1 oz. stick cinnamon
1 oz. whole cloves
3 lbs. light brown sugar

Slice the green tomatoes, discarding the stem ends. Slice onions. Mix

together with the salt in a large pickling crock. Let stand overnight. Drain. In a large canning kettle, place the tomatoes and onions. Add two quarts of vinegar and two quarts of water. Bring to boil and simmer for 15 minutes. Drain again. In the same kettle, place one quart of vinegar and add the cinnamon, cloves, and light brown sugar and simmer for 20 minutes, stirring frequently. Add the tomato and onion mixture and bring to a boil. When this is thoroughly scalded, remove from heat.

Place the mixture in scalded quart canning jars and seal according to manufacturer's instructions.

In the cold of winter, a taste of tomato relish brings back the smells and color of the last days of summer, and memories of Grandma cherishing late August's bounty. Δ

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Ayoob on Firearms

1911: The classic homeland security pistol

If you've read American firearms history at all, you know the lore of the .45 automatic. How during the Philippine insurrection, the newly issued .38 revolver failed miserably against psyched-up Moro warriors, and ancient .45 revolvers were dragged out of mothballs and re-issued to embattled American troops in the Pacific. How this led to the Thompson/LaGarde study of handgun ammunition effectiveness in 1907 that indicated nothing of less than .45 caliber should be issued as a sidearm to US troops. And how John Browning's brilliant design of a semiautomatic pistol in that caliber, as manufactured by Colt, was subsequently adopted as "Pistol, US, calibre .45, Model of 1911."

In the trenches of WWI, for the first and the last time in American military history, it was determined that every single one of America's troops needed to carry a .45 caliber handgun at the front. Though the ".45 automatic" was the first choice, the industry couldn't make enough of them and both Colt and Smith & Wesson pressed their revolver lines into production for the classic Model 1917 double action revolvers. These used ingenious half-moon clips developed by S&W to hold three of the "rimless" .45 auto cartridges together for fast reloading of these "revolvers using autoloader ammo." Not until the last quarter of the 20th century would shooters figure out that a full moon clip could hold six such cartridges at once. This allowed the fastest possible revolver reload...right about the time all the cops decided they wanted semiautomatic pistols, which were faster still to reload.



With modern techniques, even the lightest, hardest kicking 1911 .45s are controllable. Here Ayoob fires the tiny Springfield Micro Compact. Spent .45 case is in mid-air above gun, but recoil has barely lifted the muzzle from the centerline of the target.

Time marched on. In the early 1920s, a US military board convened to determine what had been learned in the Great War that could improve the design of the nation's military small arms. It was determined that about half the soldiers thought the 1911 pistol had too long a trigger, too short a grip tang safety, and sights that were just about useless. Before 1930, this advice coalesced into the improved Model 1911A1. Its trigger was much shorter and easier to reach, and this was aided by new scalloping around the trigger guard area of the frame. Bigger sights that were easier to see were added. The hammer was reconfigured and the grip safety's tang lengthened in hopes of preventing the pinch at the web of the hand that many doughboys had reported when the gun was cycling. The

1911A1 would remain the classic shape of this classic pistol for the remainder of the century.

"Legendary Manstopper"

The bolt-action 1903 Springfield and 1917 Enfield .30/06 battle rifles had proven themselves splendidly rugged and accurate when sniping at enemy soldiers across the battlefield. But, when the enemy was right there in the trenches with you, ready to spear you with the blood-stained bayonet of his Mauser, these long, heavy rifles that needed a four-step process to hand-cycle another cartridge into the firing chamber were not the optimum defensive tools. The 1911 pistol, on the other hand, proved to be in its element there. Eight quick flicks of the index finger unleashed eight



A “snubby” with 3-inch barrel, the Springfield Armory Micro Compact 1911 .45 shot this impressive group in a police-style qualification.

heavy 230-grain bullets, almost half an inch in diameter and traveling some 830 feet per second. At close range, when a single .45 slug struck the enemy in the wishbone, he tended to be immediately rendered hors de combat. To hell with bayoneted rifles, said the doughboys; this Colt .45 automatic was the ticket to getting out of the trenches alive once the enemy hordes had flowed into those trenches with you.

Countless tales of up close and personal pistol fighting emerged from WWI. The bottom line was that when Americans shot Germans with Colt .45 automatics, the Germans tended to fall down and die. When Germans shot Americans with their 9mm Luger pistols, the Americans tended to become indignant and kill the German who shot them, and then walk to an aid station to either die a lingering

death or recover completely. Thus was born the reputation of the .45 automatic as a “legendary manstopper,” and the long-standing American conviction that the 9mm automatic was an impotent wimp thing that would make your wife a widow if you trusted your life to it.

Then came WWII. The .45 automatic was the standard military weapon then as well. Used heavily in both theaters of the war, it was particularly valued in the Pacific, where Japanese sappers tended to infiltrate through the wires and be on top of the Yank soldier with knife in hand when the American woke up to deal with it. And the legend of the .45 as the “one shot, one kill” weapon was reinforced. It did not hurt that reputation that the average target in the Pacific was a rice-fed, half-starved biped who weighed about 130 pounds.

Then came Korea, and then Vietnam. Nothing happened to change the image of the .45 automatic as a deadly manstopper. In the mid-1980s, several trends converged upon the one firearm that had served the American military the longest. NATO was pushing the USA for complete compatibility in small arms ammo, and every other nation carried 9mm pistols. Except for target pistols for the pistol teams, the US government had not purchased new 1911s



For those who don't like cocked and locked, ParaOrdnance offers their LDA series in double action only. This is one of their concealed-carry models.

since before the Korean War, and the old guns were getting pretty clapped out. Finally, it is said, the Pentagon wanted cruise missiles in Italy and Italy wanted a lucrative US military contract in return. In any case, it was at that time that the United States armed services adopted the Italian Beretta Model 92F, caliber 9mm, as the official US service handgun that would be designated the M9 and would replace the 1911.

Fast forward to the present. When the War Against Terrorism went into the caves of Afghanistan, pistols became the weapons of choice for soldiers working on point in very close quarters. It became apparent that the 9mm with full metal jacket Geneva Convention ammo was as impotent as it was in WWI, with Al-Qaeda fanatics soaking up several rounds before they gave up the ghost. Those Yanks fortunate enough to have .45s—Army Delta Force, who purchase their own 1911s out of a stipend provided, and all the Special Operations Command elite who have access to the HK SOCOM pistol in that caliber—found that one or two full metal jacket .45 hardball rounds were all it took to drop a terrorist in his tracks. The call went out again: “We need .45s.”

What goes around comes around. Santayana was right. Those who ignore history are doomed to repeat it.

Contemporary perspective

Back to the present: the United States in the time of the long-foretold terrorism. The time of Homeland Security.

It is simple common sense to tailor the tool to the predictable task. If we start getting what Israel got, suicide bombers and cowards who open fire in public on what they think are a herd of helpless victims, all you can expect to have with you to interdict the threat is a concealable pistol. It

will have to deliver a powerful blow that will stop the recipient in his tracks, a factor we've already discussed, and it will have to deliver that shot unerringly in a close time frame, which is a 1911 design advantage we'll discuss shortly.

With modern American ammunition, the 9mm is perfectly adequate. This means a 115-grain hollow point bullet in the 1300 foot second velocity range, or a 124 to 127-grain hollow point bullet in the 1250 feet per second range. The former is readily available to police as the Winchester "Illinois State Police Load," the Remington equivalent that was long standard with the Secret Service, or the Federal 9BPLE round that was favored by the Border Patrol when that agency allowed the 9mm as an optional sidearm. The latter is available to police as the Winchester SXT Ranger +P+ 127-grain, or the CCI Gold Dot 124-grain +P+.

Sadly, most of this high performance ammo is sold only to police. Remington offers the public a 115-grain +P 9mm hollowpoint at 1250 fps. CCI will sell you the +P+ 124-grain Gold Dot 9mm they sell to police. Pro-Load will sell you their Tactical 115-grain hollow point 9mm at 1300 fps that actually out-performs most of the police loads. The problem is, in times of crisis the exact brand of ammo you want is often unavailable, and it's not wise to buy a gun that only performs at its best with one specific type of ammunition.

The cheapest, most widely available 230-grain full metal jacket .45 hardball will still probably solve your anti-personnel needs. No ball round is ideal for self-defense, because it tends to overpenetrate excessively. A .45 ball round can go through the bad guy, through and through the poor sucker behind him, and lodge in the



Training is the best way to master the .45. Here, 1911s jump on the indoor firing line of the "Dark House" at Firearms Academy of Seattle as master instructor Marty Hayes, left, observes.

body of an unseen innocent bystander who is third in the row. Hollow point ammo, designed to open up and stay in the body of the intended target while at the same time dumping all its energy into that designated target, remains the ammo of choice.

The good news with the .45 Auto caliber is that the better hollow points will do exactly that: stay in the bad guy and not exit with enough power to kill a good guy behind him. We're talking for the most part something between a 185-grain hollow point at 935 to 1150 feet per second, a 200-grain hollow point at somewhere between 900 and 1050 feet per second, or a 230-grain hollow point at a velocity range from 830 to 950 feet per second.

My police department issues .45 automatics. Black Hills makes our ammo at their factory on special contract, guaranteeing 850 to 880 feet per second velocity with a 230-grain Gold Dot bonded-jacket hollow point. Whether in gelatin or in flesh, the bullets expand impressively, stopping at an optimum penetration depth. The

ammunition is accurate and feeds reliably.

Analogous loads are available as (in alphabetical order) CCI's Gold Dot, Federal's Hydra-Shok, PMC's StarFire, Remington's Golden Saber, and Winchester's SXT series. Since these 230 grain "standard pressure" loads effectively duplicate the recoil and trajectory of inexpensive 230 grain full metal jacket training ammo, they shoot to the same point of aim/point of impact coordinates. This means that

once you've put a couple of hundred hollow points through the gun and know it will feed, you can save a bunch of money by practicing with inexpensive "generic hardball" of the same bullet weight and velocity, and have totally relevant practice.

Specific 1911 advantages

The 1911 pistol is testimony to John Browning's engineering genius, written in steel. It is slimmer and flatter than any of the more "modern" .45s. When you tuck it into your waistband, it doesn't dig on the side toward you nor bulge on the side away. It's grip-to-barrel angle is natural for most people, meaning that if you close your eyes and point your



1911 .45s come in all shapes and sizes. This is one of the author's favorites, the Colt CCO, with 4 1/4-inch barrel of the Colt Commander and the short grip frame of the Colt Officers.

hand at the target, when you open your eyes you'll see that your 1911 pistol is pretty much aligned to hit that target. If you buy into the "point-shooting" theory of handgun self-defense, a gun that points where you look is absolutely essential. If, like me, you believe that the gun should be visually aligned with its target, a gun that points "automatically" where you look gets you to line of sight quicker. It's a win-win situation.

The handgun is a defensive weapon, meaning that it is reactive rather than offensive. The great trainer of fighter pilots Col. John Boyd defined the OODA Loop: Observe, Orient, Decide, Act. When you Observe danger and Orient yourself to the fact that only gunfire can save you, and then Decide to respond and Act out that response, you want a quick, reactive handgun. Since the 1911 is best carried fully loaded with a round in the chamber and "cocked and locked"—the hammer cocked on the live round, and the thumb safety "on safe"—you want to learn to wipe that safety lever into the "fire" position as you bring the gun up on target.

With a pre-cocked, single action trigger pull, the 1911 now puts only a short, easy trigger press between you and the necessary hit. Repeat as necessary: the same easy pull will follow for each subsequent shot.

One big advantage of cocked and locked carry is that it mandates the gun be "on safe." If the wrong person gets the gun away from you, he has to figure out which of those little levers "turns on the gun." This will buy you time to either rectify the situation up close and personal or run a considerable distance, either of which beats hell out of the bad guy holding a "point gun, pull trigger" weapon on

you at contact distance.

In the hands of such seasoned, well-trained lawmen as the LAPD SWAT team, the 1911 .45 pistol has historically delivered an extremely high percentage of hits for the shots fired in life-threatening close combat. The pistol is simply easy to use well when in the grip of hand-shaking, gut-clenching "fight or flight response." Browning built it to perform exactly that way. The design succeeded.

For those who like everything about the 1911 design except the cocked and locked part, ParaOrdnance makes their excellent LDA .45 in sizes small, medium, and large. The hammer rests in the down position, and a double action only trigger requires a long but light and silky smooth trigger pull for each shot.

Selecting the 1911

There are more good brands of 1911 pistol than ever. Being a pessimist, and a police supervisor, I like guns that are SNAFU-proof and drop-safe. That means pistols with a design that physically prevents the gun from discharging if it is dropped



With frame rail for InSight M3 light, Springfield Armory TRP Operator is ideal for home defense. This is one of the most highly evolved of today's 1911s.

to the ground or struck sharply while in the officer's holster.

This brings you, basically, to four commercially available 1911 handguns. There is the Colt Series '80, which uses a trigger-activated firing pin block. There is the Para-Ordnance series of pistols made in Canada, which licenses the exact same design from Colt. There is the Kimber II series, which uses the grip safety activated Swartz principle from the 1930s as reworked by modern handgun design genius Nehemiah Sirkis. Finally, there are Springfield Armory 1911 pistols as produced circa 2001 and later which use a combination of a lightweight titanium firing pin and an extra-strong firing pin spring to make unintended "inertia discharge" physically impossible.

Within these four brands, you can get everything from literally pocket-sized subcompact .45 1911s that hold six rounds in the magazine and a seventh in the chamber, to the "wide-body" Para-Ordnance P14, which with "grandfathered pre-ban" magazines can hold a total of 14 .45 ACP rounds.

The 1911 in the backwoods

Backwoods folk have been using the 1911 pistol to good advantage since WWI, when that quintessential



Good ergonomics in action. Short 1911A1 trigger of Springfield Armory Micro Compact allows deep finger placement for good leverage.

backwoodsman Alvin York fired six or seven shots from his Colt .45 auto and killed as many charging enemy infantrymen. He was awarded the Congressional Medal of Honor for that feat.

Generations of worn-out guns made of GI parts just thrown together, coupled with training that was deemed "good enough for Government work," has given the 1911 pistol a reputation for poor accuracy. By and large, that reputation is not deserved. Your better 1911s, as manufactured today, will stay in 2½ inches or better at 25 yards with ammunition of top quality.

I have two custom Colt 1911A1 .45 pistols, one crafted by Mark Morris and the other by Dave Lauck, that will each put 5 shots in an inch or better at 25 yards when loaded with Federal Match hardball or Federal 230-grain Hydra-Shok. Nor do you need the attentions of a custom pistolsmith to achieve that kind of accuracy. My Springfield Operator TRP (Tactical Response Pistol) cut a one-inch group at 25 yards out of its factory box with 5 rounds of Winchester 185-grain Mid-Range Match ammunition. My Kimber Custom stainless (the least expensive pistol that company makes) put 5 rounds of Winchester Ranger 230-grain +P police ammunition into an inch and a quarter at the same distance. Both of my Colt CCO pistols will do about 2 inches at 25 yards with the ammo they like best. CCO stands for "Concealed Carry Officers" model and comprises the short 4¼-inch barrel/slide assembly of the Commander pistol on the even shorter frame of the little Officers ACP. Finally, I've had several Para-Ordnance pistols that would hit the one-inch mark for a 5 shot group from 25 paces.

When I first visited hunting ranches in Texas, I had expected to see the hands and the guides carrying Colt Peacemakers and Magnum revolvers. Not hardly; almost every man-jack

among these working cowboys wore a 1911 .45 auto tucked in the waistband of their jeans or on the front seat of the pickup truck beside them.

The woodsman has to consider the long range shot. An accurate 1911 .45 can deliver the goods here; the secret is to know how much that slow, heavy bullet drops as the range extends. As one observer put it, "The standard 230-grain .45 slug has the trajectory of a basketball." Save yourself some computation and do what I do. In the woods as opposed to on the street, I load my .45 auto with Remington's deliciously accurate 185-grain +P .45 jacketed hollow point. I discovered long ago that if my .45 was sighted in spot on at 25 yards with standard 230-grain ammo, it would put the shot where the sights were at 75 to 100 yards. The 1140 foot-second muzzle velocity of that 185-grain Remington .45 +P really flattens the trajectory.

Because of its short trigger pull and cocked n' locked condition of readiness, the 1911 .45 auto is better suited to the skilled and dedicated practitioner than to the amateur. That said, nearly a century of history has made the 1911 .45 automatic the quintessential "homeland security" pistol, from the rural game fields to house to house combat, and nothing is going to change that. Δ

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Creating your own **JOB**

By Gary F. Arnet

“I lost my job today,” my friend John told me recently. “I have been with the university for five years and with the state budget crisis they just cut my position. I don’t know what to do.”

As we talked, he said, “You know, I never really liked that job. I was just filling a spot in their bureaucracy and doing it to make a living.”

John is not alone. In this tough economy, many in all walks of life are losing their jobs as the national unemployment rate hovers around 6 percent. While personal bankruptcies are on the rise, statistics show that 80% of the people who declare bankruptcy could have prevented it if they had only another \$500 a month more. Besides those losing their jobs, millions more are bored with what they do every day. Many of those fell into their job because they needed to make money, not because it was their passion.

A job is something you do for a paycheck and quit when the wage stops. A career requires deeper personal investment and marks achievements with money, prestige, or power. A calling, on the other hand, is a passionate commitment to work for its own sake. It is something you love to do and people with callings are happier and more successful than those with jobs or careers.

There are many creative ways to make money and live without a job.

That’s not to say without working. No, it does take work to make money. It is just that you are not working at a job you don’t like.

What made America prosperous and the envy of the world is the American dream of being able to start a business and become successful. To do so, you need the determination to work as hard as it takes to become successful. Most peo-

ple the best ways is to find something you love to do and then figure out how to make money doing it. This may require opening your mind to look beyond what you have done in the past, your current skills, and what others say. Think about what you would really like to do and then figure out a way to get there.

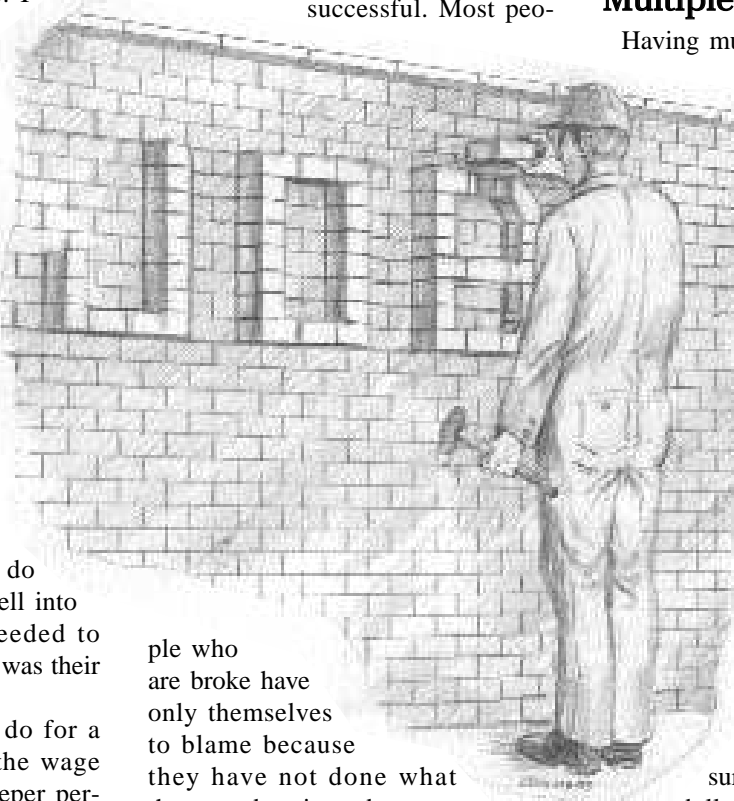
Multiple incomes

Having multiple sources of income is one way to secure financial freedom. Just as it is important to diversify stocks you hold in an investment portfolio, it is important to diversify your income.

You don’t want “all your eggs in one basket” when it comes to income. For most people, most of their eggs come from their job, which is at the mercy of their employer and the economy. Lose that and they have lost everything.

Diversify an income by finding multiple sources of income. It is surprising how quick a few dollars adds up. Doing something to earn only \$200 a week will create an additional \$10,400 a year. Five hundred dollars a week adds up to \$26,000. Who couldn’t use that?

Let’s say that someone loses a job that pays \$48,000 a year. It certainly could be hard to find another job at that rate or to start a business that would earn that much. It may be easi-



ple who are broke have only themselves to blame because they have not done what they need to in order to succeed.

So, whether you lose your job, need more money to make ends meet, hate your job, or just want the money to improve your lifestyle, there are ways besides working for someone else that will allow you to do so.

There are endless creative ways to make a living without a job. One of



Work in the service industry is one way to easily start a business. There is demand for reliable individuals who will wash windows, clean houses, do yard work, and take care of pets.

er to replace that income by finding four smaller sources of \$1,000 a month each. They would only need to earn \$250 a week from each of these income sources to earn \$48,000 a year. Now, that is more achievable.

Sources of income include any ways you can earn money, not just working at a job. Renting out a room in a house, renting storage space in a garage, basement, or for a boat are ways people earn additional income. Some people rent an unused portion of their yard or property to someone who needs space to grow a garden or raise animals. Others rent their house or yard for a movie shoot or for weddings. Buying and renting houses or duplexes can add income.

Small farmers are traditionally masters of making money from every possible source. They have to be if they are going to survive. For example, a family that raises almonds on a small amount of land may not only sell the almond nuts as a crop, they might also sell the almond husks for

animal feed, and cut up dead trees to sell as firewood. Most of the nuts might be sold to a distributor, but they may save some to make flavored nuts and almond butter to be sold at farmer's markets and craft fairs.

They might use land around their barn to rent out space for horses, selling the horse manure for compost, and also have a large garden from which they raise herbs, vegetables, and flowers to sell at a farmer's market.

Chickens may be raised to sell their eggs. The chicken manure, along with the horse manure, may be used to raise earthworms for sale, selling the manure as compost afterwards. They might even rent a nice shaded area by a creek for weddings or giving farm tours to "city folks" for a fee. Sure this is a lot of work, but every little bit helps.

Your niche may not be in agriculture, but this example shows how you can find every possible way to make money off your main product or service.

Cut spending

One of the easiest ways to make money is to not spend it. For every \$100 a person spends, they need to earn at least \$125 to \$150 to pay all the payroll, income, and sales taxes. While the last thing most of us want to do is to cut spending, it really can make a huge difference in the amount you need to earn in the first place.

A bankruptcy court recently sent me a notice about someone who owed me money. Attached was a 10-page list of about 150 businesses and individuals to whom this lady was in debt. There were a few major debts for a house and car, but, by far, most of the \$100,000 debt owed was for small amounts under \$200. She lived an expensive lifestyle, denying herself nothing, while not even trying to live within her means. She could have very easily avoided bankruptcy by just managing her spending.

If it seems that the money always seems to run out before the end of the month, it may be wise to look for ways to cut back on expenses. Large fixed expenses, such as mortgage, auto, and insurance payments are hard to cut back unless you decide to reduce your lifestyle; however, other expenses can be controlled relatively easily.

Analyze every expense as to whether it is an absolute necessity, important but can be delayed, or simply a luxury or convenience, and decide where to make changes. Nothing says you shouldn't include luxury or convenience expenses, but maybe less expensive ones could be used or items purchased less often.

Financial advisor Ray Martin who writes for CBS MarketWatch.com estimates a family of four in the northeast could save over \$8,000 a year without much pain or effort if they saved small amounts in a few areas of their life. He gives the following suggestions.

A couple could save \$150 a month by dining out once a month instead of weekly. At least another \$100 a month per person could be saved by bringing lunch to work or school instead of buying food and beverage. A pack-a-day smoker would be healthier and could save \$120 a month by quitting smoking, more if medical costs associated with smoking are considered.

Bank fees add up tremendously. Avoiding ATM transaction fees, annual credit card fees, and credit card interest and late fees can save quite a bit. Paying bills online can save the cost of postage and checks. Martin estimates most people could save \$800 a year by managing bank fees.

Gasoline is an increasing cost for consumers, especially in some states. Since only high-performance cars, such as BMWs or Mercedes, need high-octane gas, using regular will provide savings. Avoiding unneces-



The Internet has become a \$900 billion industry. Using your computer at home, there are unlimited ways to make money now that it is easy to reach a worldwide audience.

sary driving and consolidating errands into one trip can also save on gas costs.

Using energy efficient appliances, lowering the thermostat in the winter and raising it in the summer, insulating water heaters, turning off lights, and other energy saving ideas can save utility costs at least \$500 a year or more.

Consumer technology is great, but expensive. Cell phone, additional phone lines, pagers, phone services such as call-waiting, call-forwarding, and answering services, cable or satellite TV subscription service, DSL service, and web service subscriptions can add up to \$100 to \$200 per month. Decreasing or eliminating unnecessary or minimally used services can add up to large savings.

Consumers can save a considerable amount by buying food in bulk at discount warehouse stores. Individually prepared meals, such as frozen dinners, are expensive. Sodas, chips, cookies, and other “junk foods” are fine on occasion, but limiting them to occasional instead of daily use can improve the diet while saving money. Having a plan for meals and bringing a shopping list to the market limits impulse buying and, therefore, cost.

Evaluate insurance to see if raising deductibles or changing companies can lower costs. Buying auto and

homeowner's insurance through the same company can reduce insurance costs by 10 to 15 percent.

There are many other “little” things that don't seem to cost much, but taken together add up. A few hundred here and there and soon you are saving thousands of dollars a year without much sacrifice.

Creating income

When I was talking to John about his job loss, we kept discussing friends we knew who make a living without a job. That is when it struck me how many people do this and what opportunities exist.

While there are hundreds, if not thousands, of ways to make an income doing something you enjoy, sometimes you need to look “outside the box.” Instead of looking at established job descriptions, look at what you love to do and then figure out a way to make money at it. Be creative.

Like history? Start a tour business showing people the local historical sites in your town. Like to fish? Become a fishing guide. Like to bake? Make custom-ordered cakes. Like shopping? Become a personal shopper. Like the Internet? Make a commission selling things for others over Ebay or other auctions.

Your income can even vary by the season. One friend I know makes a living for his family as a ski instructor and by owning a snow removal company in the winter, while being a water ski instructor and handyman in the summer.

While there are many sources of income out there, most fall into a few broad categories. The stories of the following people are all real,

although I have changed their names to protect their privacy.

Service industry

When David left the Army Special Forces he found there was not much of a civilian job market for snipers. Having no other training, he fell into something others don't want to do—washing windows. He has developed a large clientele of businesses and homeowners that allow him to make a good living, while giving him the freedom to travel and go hunting when he wants. This has been his sole source of income for more than 12 years.

His secret? He discovered that many people don't have the time or interest to do routine work around the house and are more than willing to pay to have it done. In fact, it can be hard to find reliable, trustworthy people to do work around your house. Dave does a good job at a fair price and is not afraid of doing other work.



Many people supplement their income by selling products of crafts or hobbies that they enjoy, such as woodworking, stained glass, or quilting. A few people even turn this into their full-time income.

Need your gutters cleaned out? Sure, he'll do that. Need a plant moved? Some debris hauled? He'll do that also.

Jan has made a living for 15 years cleaning people's homes. She works full-time and accepts only clients that she likes. She is reliable, thorough, and has a waiting list of people who want her to clean their houses. It is surprisingly hard to find quality and trustworthy cleaners. How did she start? Word-of-mouth. Her first client told their friends about Jan and word spread fast until she was so busy she had to turn business away.

People will pay others to clean their house, clean gutters, rake leaves, shovel snow, do shopping, wash and detail cars, organize closets or garages, take care of their animals, house-sit when they are gone, mow their lawn, clean their pool, manage their flower gardens, and even scoop up dog droppings from their yards. Many people have more money than they have time, making a perfect opportunity for someone looking for work.

Hobbies and crafts

After retiring from a career as a cardiovascular nurse, Ben was looking for a way to spend his time. He took up woodworking on a lathe, making beautiful bowl and lamps from wood he finds near his mountain home. Finding he loved lathe work, he soon had given away bowls to all his friends and still had a garage full of finished products.

He started traveling around to craft and art fairs to sell his extra work. He found in some urban areas he could sell a bowl for several hundred dollars, and, all of a sudden, he was earning several thousand dollars a weekend.

Lisa is 16 years old and makes gorgeous fused glass and silver jewelry. She sells about \$1,800 of jewelry a month at art fairs, stained glass stores, and through her web site. Not

a bad high school income for doing something she loves to do.

Don, a dentist, carves custom gunstocks out of black walnut as a hobby. His work is very elaborate, detailed, and in demand. He works only when he feels like it and customers gladly wait and pay any price since his work is unparalleled.

Homemade crafts of all types are in demand when you find the right market. Judy, a receptionist at an office by day, makes cute, elaborate cookie dough Christmas ornaments while watching television at night. She can sell \$1,000 worth of ornaments in a weekend at a craft fair. Not a bad income from a part-time hobby.

Hobby and craft products are certainly a way many people make some extra income while having fun. Some even make a full-time living. Those interested in more information should read *Handmade for Profit: Hundreds of Secrets To Success in Selling Arts and Crafts* by Barbara Barbec.

Teaching a skill

Local community colleges and adult education programs have community education classes that teach everything from bicycle repair, wilderness survival, traveling on a budget, gardening, tamale making, and genealogy to getting out of debt, planning your retirement, and computers.

Classes are taught by instructors who know their topic and not by professional teachers. Most instructors teach because they love their topic and want to pass along their knowledge. Some teach to meet people interested in their field or hobby and others teach to attract future customers in their regular business or to sell books they have written. Instructors are paid to teach the course by the college, making it another small income source.

Parents gladly pay to find qualified teachers in music and art. Tutors are in demand to help students learn

mathematics, reading, and science. People pay to learn woodworking, ceramics, stained glass, and other hobbies. Surprisingly, there is even a business in teaching ballroom dancing to couples needing to learn to dance for their wedding. There is demand for just about anything you can teach.

Farming and gardening

Maisie Jane Bertagna was in high school when she started preparing and selling seasoned almonds as a FFA project at school. Her product was a hit and she started Maisie Jane's California Sunshine Products. Now in her 20s, Maisie now employs a number of people and her products are distributed in stores nationwide.

Matt is an almond farmer, but has raised and sold fresh fruits and vegetables at a local farmers market since he was 10 years old. He enjoys spending Saturdays seeing old friends at the market while he supplements his income. Others with small gardens grow specialty vegetables in their yards for sale to local restaurants and organic food stores. There are many ways to make money from your love of growing or raising foods.

Love flowers? How about selling potted or cut flowers? One person set up a business where she grows flowers and has contracted with small businesses to provide them with an arrangement of fresh flowers for their reception room or office every week. Specialty nurseries can be set up on as little as 1000 square feet of land.

Dog breeding can be a profitable and fun way to make some extra money, as can raising other animals. There is a market for almost anything you can raise.

Internet

The Internet is a \$900 billion industry that has truly revolutionized the way an individual can do business. Anyone can launch a web site and open an online store to sell almost

any product or service, reaching a worldwide market that was once only available to large corporations.

Some of the opportunities available include web sites to sell products, selling over E-bay and other auctions, self-publishing, starting E-zines (electronic magazines), and writing online newsletters on topics that interest you.

Considerable other work is also being done over the Internet. For example, a draftsman I know works from his house receiving jobs from companies over the Internet. He does the work in his free time at night and weekends and returns it via the Internet. Work is so good he is thinking of making this his full-time job.

One nice thing about many Internet businesses is that they do not require you to be available by the phone at all times. Your Internet business is still working while you are at work, play, or even sleeping.

A number of books are available on making income on the Internet, including *Multiple Streams of Internet Income* by Robert Allen.

So much more

Opportunities to earn money are limited only by one's imagination. If you love to travel, why not make money at the same time. Travel income sources include freelance writing for travel magazines, being a photographer, leading group tours, and buying or selling for an import/export business. If you want to travel abroad and know a foreign language you are in even more demand.

People earn money with freelance photography, videotaping weddings, baking, decorating cakes, leading local historical tours, researching family histories, and cutting and selling firewood. Other home businesses include mail order businesses and information products such as audiotapes, videotapes, or computer software. Those with a passion for writing earn money self-publishing

books, writing for magazines, and creating newsletters.

The possibilities are literally unlimited. Finding your passion is the first step in making an income without a job. If you follow your love, the money will follow. For other ideas read *Careers for Non-Conformists* by Sandra Gurvis or *Making a Living Without a Job* by Barbara J. Winter.

You can keep trudging along complaining about your life and waiting for something to magically change or you can do something about it. Find your calling and take the steps to follow your dreams. Whether you are trying to earn some extra income or looking for a new career, the possibilities are endless. Δ

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the gee-whiz! page

By O.E. MacDougal

Warm blood

What is it that actually makes an animal, such as a mammal or a bird, warm blooded while all other organisms in the animal kingdom, reptiles, fish, insects, etc., are cold blooded?

Unique to birds and mammals is that the cells in their muscles are always "vibrating." The vibrations are miniscule and unnoticeable to the eye. In the human body these vibrations occur at anywhere from 6 to 12 times a second. To vibrate like this, the cells have to consume food energy and the main by-product is heat, which makes us warm blooded.

Reptiles derive only a little of their body heat from the food they consume; the rest comes from ambient air and sunshine and this is the main reason why we often see snakes and lizards sunning themselves on rocks and on road surfaces when the sun is out.

The advantage of warm bloodedness is that warm muscles operate much more effectively than cold muscles so warm-blooded animals can operate more efficiently on cold days and in cold climates making the pursuit of mates and food, as well as the escape from potential predators, more likely. (There are no arctic reptiles nor do they exist above the timberline of high mountains.) But warm-bloodedness comes at a cost. To maintain this high level of energy consumption, mammals and birds must consume greater quantities of food. It is one of the reasons we find proportionally fewer mammals than reptiles and insects in areas where food sources are scarce, such as deserts.

The obvious advantage of being cold blooded is that cold-blooded organisms, such as lizards and snakes, don't have to consume nearly as much food to survive as mammals and birds do. However, cold-blooded animals usually have to raise their body temperature to mate, pursue quarry, and to escape their predators-particularly when those predators are mammals and birds.

There are "exceptions" in the warm-blooded/cold-blooded classification of animals. Most warm-blooded mammals, for instance, keep a more-or-less constant body temperature, but some don't. Conspicuous among these are bears, bats, gophers, and groundhogs whose body temperatures can fall by as much as 50° F when they hibernate. Bats, in fact, have a problem maintaining a constant temperature whenever they're inactive, and their body temperatures fall dramatically just nesting or sleeping.

And there are fish, such as tuna and mackerel sharks (see *gee-whiz!* in Issue 74, March/April 2002 of *BHM*), whose body temperature is higher than their environment because of an unusual arrangement of blood vessels in their circulatory systems that allow their bodies to retain heat produced in their bodies' muscles before it is lost through their gills to their environment. They aren't really warm-blooded in the sense we think of mammals and birds being warm-blooded, but they are unique in the world of the so-called cold-blooded animals. Then there are also certain insects, such as bees and hawk moths, that can raise their body temperatures to those well above their environment by flapping their wings.

Writing

Writing was apparently invented by, of all people, accountants and tax collectors. Its origins, around 7500 BC, began with an attempt to keep records of farm production, commercial transactions, and taxation.

Archaeological evidence indicates that the earliest method for keeping track of crop harvests, animals, and other things originated in the Middle East. At first they used tokens made of clay. One token, shaped like a cone, stood for some measure of grain, perhaps a basketful or a cartload. Another, shaped like a cylinder, stood for a head of a certain type of livestock. And there were disks, spheres, ovoids, and at least 300 others, each designating a certain product like honey, wine, or metals.

One token for one cow was fine, but what if you had 90 cattle? They began using hollow clay spheres to hold the tokens. On the outside of the spheres were impressions of cones, spheres, etc., so one knew what the container held. Inside were 90 "cattle" tokens.

After several millennia of this, it became simpler to dispense with the tokens and just inscribe the symbols directly to tablets with a stylus. And instead of making 100 cylinders to represent 100 cattle, new symbols to represent *numbers* were invented.

But they didn't stop here. Eventually, names of people were recorded. Symbols were invented to stand for sounds, just as the letters we use today stand for sounds. By 2700 BC, other spoken words were written using these sound symbols and by 2400 BC whole narratives-histories, stories, poetry-were recorded. Such was the first written language, Sumerian.

So, today everything from the writing in the *Bible* to *Harry Potter* owes its existence to accountants.

Venison burger chow mein

By Tom R. Kovach

With both my parents born in Hungary, I grew up enjoying a number of delicious Hungarian dishes. Some were kind of spicy and many were heavily accented with paprika, that favorite old Hungarian standby. My mother, who passed away when I was young, was a great cook. So was my father. But as I grew up and went off into the military, I traveled around the world and became quite fond of a number of different ethnic foods. I really enjoy south of the border fares such as tacos and burritos. And I could eat Italian spaghetti on a regular basis.

And I also developed a special liking for Chinese food, from noodles to rice, to chow mein and sweet and sour dishes. I also like game meat like venison and grouse. So I sometimes try to combine the wild game meat with some of my ethnic dishes. For example, venison burger works well in tacos and it makes for good meat in any spaghetti sauces. But I've also found that venison goes quite well with some of my favorite Chinese foods. Here's one recipe I enjoy which doesn't take very long to prepare:

Venison burger chow mein

1 lb. of venison burger (Actually, a pound or so of chopped venison steak will work too).
1 stalk of celery diced
1 medium carrot diced
1 small onion diced
1 can vegetable beef soup (10 $\frac{3}{4}$ oz.)
1 can cream of mushroom soup (10 $\frac{3}{4}$ oz.)
1½ soup cans of water
1 can water chestnuts (8 oz)
1 can bean sprouts (14 oz.)
chow mein noodles

Brown venison burger, onions, carrots, celery and drain excess juice. Use low heat. Add the soups, water, chestnuts and bean sprouts. Simmer for 15-20 minutes so that all the ingredients can blend well together. Serve over chow mein noodles or over hot, cooked rice. Dash on a little bit of black pepper and some soy sauce for a little more oriental flavor. This should make 4 to 5 servings (depending upon how hungry everyone is). Δ

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Harvest your own firewood

By Pete Earl

Harvesting firewood has many rewards: exercise, satisfaction, saving money, and the security of having your own fuel supply for winter warmth. Here are some pointers in the art of cutting your own with maximum safety and minimal effort.

Instead of just cutting green wood and letting it dry over the summer, consider going after aged hardwood, those dead trees that are losing their bark. I call this “vintage firewood” because it has aged like fine wine. If you love a blazing hot fire, this is your ultimate fuel.

Gear to get

A big part of your success will depend on your gear. You’ll need lots of it, but after the initial outlay, your heating costs go way down.

Chain saw. Go as big as you can afford. I struggled for years with a little 1.8 cu. in. engine saw. Now I have a 3.5 cu. in. model that can really cut!

I suggest at least a 3 cu. in. saw. Test start it outside the showroom and check for easy starting, smooth idling, and a working bar oiler. Rev the engine, then dip the bar tip near the ground. You should see some sign of oil flying off the chain if the oiler is an automatic one. Don’t get a saw so heavy you’ll have trouble using it. I consider a chain saw very dangerous. Remember that this tool can cut your leg or your head off in two seconds. I took a waterproof marker and marked a long line on the side of the saw 20 inches from the bar tip. Now I have a built-in log measure.

Gas. Get regular gas and add gas stabilizer (such as STA-BIL) to it as soon as you get home. This keeps the gas from gunking up. You’ll also need two cycle oil to add to the gas.

Bar oil. Get a good quality brand by the gallon to save \$\$.

Gear bag. Every time you head into the woods be prepared to spend the night. All sorts of accidents can

happen, so your gear bag could save your life. I use a small canvas bag covered on the outside with a plastic grocery bag. A sharp hatchet and six-inch long wedge are essential for freeing your saw from being pinched in a bad cut. Include a large space blanket, a bunch of hard candy, water bottle, matches, and a signal whistle. You’ll need your bar adjusting wrench occasionally. A spare wool hat and pair of thick gloves are a good idea. If you’re alone, a walkie talkie or cell phone would be great to have. Add a small first aid kit or a war surplus combat bandage in case you suffer a deep cut. I also bring two 12 oz. dry gas bottles, one filled with bar oil and the other with gas mixture. Wrap them tightly in a thick plastic bag to contain any spillage.

Clothes. Dress warmly, even in warm weather. A hard hat is a good idea; use a chin strap. Under the hard hat wear a wool hat. Most of your body’s heat loss is through your head.

Safety goggles are a must and ear protectors are good if you have a loud saw. Wear tight-fitting clothes with no scarves or necklaces that can get caught in the chain. Thick gloves and boots complete your wardrobe. Don't forget an orange vest or jacket if it's hunting season.

Selecting trees

With your fueled and oiled-up saw in one hand and gear bag in the other, you're ready to hit the woods. I cut almost all oak and maple, avoiding pine and spruce. Even dried, these last two produce a fair amount of creosote, which can cause devastating stove pipe and chimney fires. With the exception of oak, aged wood needs to be found before it hits the ground and rapidly rots away.

Dead trees can be tricky to spot at a distance. Crumbling top branches and peeling bark are good signs. I've developed the habit of peeling off a big section of bark at eye level on my walks through the woods. This trick really helps spot trees when cutting time arrives. Since I have to haul my logs out by hand, I try not to cut anything larger than nine inches in diam-

eter. Even aged oak is heavy. Avoid badly rotted trees that fall apart in your hands.

Cutting down

Once you've found a suitable dead tree, make sure there is a felling line. A tree hemmed in by others close by isn't worth bothering with. Clear away the base area and any eyepoker branches near the tree. Make sure you have good footing, especially in snowy and wet weather. Drop your gear bag and saw 10 feet away, out of the felling line. If the tree is thin enough to be shakable, put on all your protective gear and shake the trunk as hard as you can, **looking up** at the top all the while. This whipping action often cracks off any "widow-maker" branches just waiting to snap off and stab you in the neck! If any break off, run—do not walk—several yards away. Next, plan the exact felling line. A tree that's already leaning more than a few degrees in one direction will usually fall that way.

Now comes the big question: to notch or not? Someone could write a small book on the art of notching, but it won't be me. I almost never bother, unless I'm cutting a large tree. The notch advantage here is that it helps make a clean cut with minimal splintering of the trunk as it falls over. Most trees come down smoothly with just one 20 or 30-degree cut at the base. Make sure any cutting companions are at least 50 feet away, to one side of the felling line. Rev your saw to full speed before cutting and use the



For hauling from the woods during the winter, the author's homemade sled, complete with metal runners, does the trick of removing logs from the forest. The sled should never be overloaded. It makes going uphill more difficult and it can make going downhill treacherous.



An old bike can be converted to a tool for hauling heavy logs from the woods, but you should not overload it and you must always be mindful of the kind of terrain you're taking it over.

teeth at the bar's base to bite into the wood to help prevent kickback. **Always** keep all parts of your body out of the saw's cutting plane. Putting your head over even an idling saw could be dangerous. One slip and your face will meet some sharp teeth when you hit the ground.

Once the tree starts definitely falling, release the throttle and quickly retreat at least 20 feet away **at a right angle** to the felling direction. Standing behind that tree can be fatal. Either springy top branches or your tree landing on a smaller, springy one can cause the trunk to break free from the cut and slam back like a battering ram faster than you can duck.

Debranching

Debranching is routine so it's very easy here to get careless and cut toward your leg or in line with your

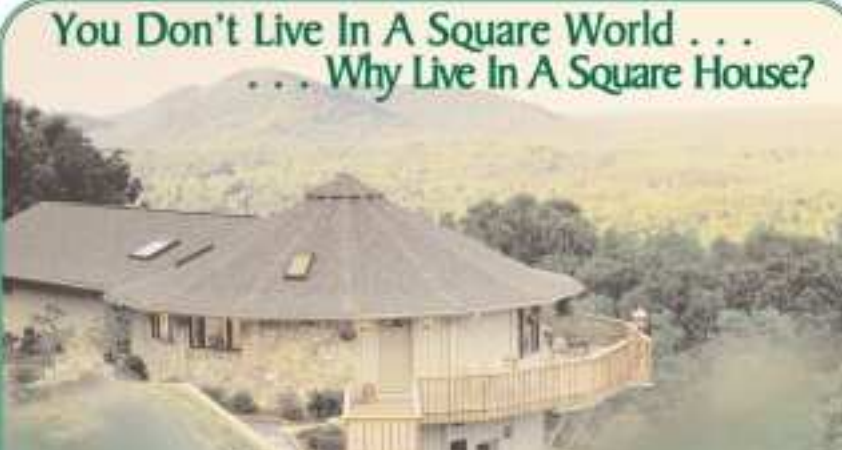
head. Don't let your guard down. I like to cut off all the branches before sectioning up the tree. Toss them well out of your way and you're ready to start sectioning. Begin at the top so that the bottom half will be lighter and easier to handle. Using your saw's measuring mark, make shallow cuts to mark two logs then cut through at the third mark. If your log length is less than 16 inches, add another log length to make your sections about five feet long. As I approach the base of a thick tree, those marks get several inches closer together. This makes the last few sections much lighter and the logs easier to split. Watch for embedded nails, fence wire, and small rocks in the wood. They can damage your chain and cause kickback. When cutting sections flat on the ground, you should cut three quarters of the way through. Do this until you can cut a section with air under it, then roll the trunk a half turn and finish the cuts.

Hauling out

Now comes the hardest part, getting those heavy logs home. Cutting, splitting, and stacking in place is fine if you plan to use a pickup or ATV to haul the wood out soon. I want to get those logs back to my woodpile ASAP for two reasons. A sudden ice or snow storm could cut you off from your wood or someone might come along and take a strong liking to your beautiful logs.

I've built two log haulers that make the job much easier. My bike and the wood for my sled both came from a landfill dump. For the bike find one with a straight frame and wheels, take off all the gear, fenders, and seat. Make a new log seat out of a 16-inch long piece of 2 by 6-inch lumber. Support that piece with a base built around the seat post. Add boat cleats or large steel rings at each end and tie a 3-foot long piece of thin rope to the far cleat. Turn the handlebars up enough to create a carrying bracket

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up front. Put on wide tires with rugged tread. Use the bike only in dry weather. Wet leaves or ice or snow make this hauler unsteady because the tires can slip and push the load onto you.

For snowy winter conditions my beefy sled is perfect. It's made from two 1¾ by 6-inch boards that are 60 inches long. The top three 2 by 4 connectors are each 18 inches long. The lower connectors are several inches off ground level and angled forward to plane the sled up over light snow. Secure all connectors with 4-inch long screws (and a monster screwdriver). Cut some smooth curves on the front ends, then stain all the wood. Drill 4 holes about 2 inches deep at the corners and drop in some 12-inch long bolts to keep the logs in the sled. You'll need metal runners or the sled won't slide much. I used sheet aluminum. Take your bottom, curved length measurement and your runner width to a sheet metal shop.

Have them cut the length and triple the runner width to allow for side overlaps, then ask them to bend each piece to form a U-shape the exact runner width. Once home, put some shallow notches in the front curve area and nail the metal to each side of each runner with galvanized nails. Drill two rope holes in front and put in a 27-foot length of ¾ inch rope. I prefer manila because it stays warm and flexible in cold weather. By doubling the rope you reduce its bite into your waist or shoulders.

If you'll be pulling up steep hills, don't overload the sled and overexert yourself. Watch out going down slopes, also. Don't let the sled pick up a lot of speed and run you down. Logs in motion pack a punch.

Splitting

Once you've bucked your logs into stove-size pieces, splitting the giant ones can be a chore. I recently moved up from using a splitting maul to a

hydraulic splitter. It's a 4-foot long steel "I" beam with a wedge at one end and a 10-ton jack at the other. Pumping two long handle levers moves the jack and rams a log against the wedge to split it. This beauty requires no gas or electricity and really saves your back. Check tool catalogs such as Harbor Freight Tools for one. It costs about \$150.

Store your split logs under some sort of solid roof. Tarps tend to load up with snow and ice, then rip and leak like crazy. Completely dry wood is important for maximum heat output.

Yes, cutting your own firewood is a lot of work, but think of it as a free gym workout. You'll find that the satisfaction and security of having those hunks of superb fuel stacked out back is fantastic. Of course, saving hundreds or thousands of dollars a year on heating costs is the big reward.

It's real hard to have too much firewood, so keep on cutting. Δ

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The art of Wood splitting

By Phil Nichols

There is nothing nastier to clean up after, more labor intensive to use, remotely close to as backbreaking, as dangerous to life and limb (I personally know one man who was trapped by a falling tree and severely injured, another whose leg was completely shattered when a limb he was cutting in a dozed up pile of timber snapped forward unexpectedly, and a good friend experienced in every aspect of wood who died when he failed to out-run a relatively small tree that fell the wrong way), or as generally disagreeable as wood. Yet for all that, I still love cutting and splitting our yearly wood supply.

In this age of never ending stress and high speed mechanization, few moments can compare with those spent drinking in the sour earthy aroma of a freshly split and stacked woodpile that you've worked up with the pure clean sweat from your own brow.

It's also extremely satisfying to bask in the warm luxurious heat of your own fire while the fierce beasts of winter batter at your door, content in the knowledge that Mother Nature can do her worst and you'll still be just fine.

Having wood heat not only provides a sense of security but can also save hundreds of dollars per year in fuel bills when you do the work yourself.

I've often said, "Next to a full belly there is nothing more gratifying than a full woodpile." The obvious question of course is how to fill it up (the woodpile that is).

You have two options for getting started: find a woodlot where you can

cut down trees yourself or pay someone to deliver split firewood or unsplit rounds. If you're going to work the wood up yourself you'll have to decide whether to buy a woodsplitter, rent one, or tackle the chore the old fashioned way with maul and wedge.

For the past 30 years or so (a number of which were spent selling firewood as a side business) I've been doing it the old fashioned way. However, unlike my good neighbors in our local Amish community I do opt for a chain saw rather than their two-man bucksaws and handheld bow saws for felling and cutting. But once my wood is ready to split I still pursue the same self-reliant course as my great-grandfather before me.

With each passing season, as the pains of old age intensify, I reevaluate the wisdom of my position and consider laying down my maul and wedges in favor of a hydraulic alternative. But each year I say to myself, "Maybe next year."

Now would be a good time to state my cardinal rule: if you have a choice, *never* cut or split wood when it's hot outside, as this is an open invitation to heat exhaustion or much worse. Late fall, winter, and early spring, when temperatures are below 40° F, are the times to work wood. You can always tell when fall has returned to the Ozarks as the buzz of working saws once again echoes through the timber.

If you've opted to cut trees yourself you've got some decisions to make once your wood is down and blocked up (cut to the desired lengths). Should you split it where it lies, load it, transport it, and stack it or load the unsplit rounds, transport them, unload

them, split them, and then stack them? This of course is a matter of preference, logistics (if you can't get your pickup close to your wood and don't have a farm tractor and trailer the only option sometimes is to hump it out and rounds are a lot easier to carry than split wood), time (not all of us have the luxury of leaving our wood in the timber to cure), security (there is nothing more disheartening than to leave after spending several backbreaking hours laboring over a pile of wood only to discover that someone else has enjoyed the fruits of your labor when you return), and physical ability (loading really big rounds can be extremely arduous).

I always try to handle wood as few times as possible. Count the steps in the first scenario I presented and you'll find that there are four: split, load, transport, and stack. Now count the steps involved in the second strategy. That's right, an extra hands-on activity (unload) snuck in there. These are the terms that you have to think in, as it's your back that's going to be taking the beating.

If you decide to try swinging a maul or sledge you'll soon discover that hand-splitting is about equal parts of *brute strength*, *finesse*, and *art*.

Generally speaking, seasoned wood tends to split a lot easier than green wood if you're doing it by hand. So anytime I'm cutting green wood I like to stack my rounds near where I've felled the tree (using two trees 20 to 25 feet apart as bookends works well) and let them season for several months before splitting. Frequently, I'll cut and stack one winter and split the next. This does involve more han-

dling initially but it evens out in less wear and tear on me.

Some folks favor cutting green wood in the fall and then splitting it that winter after a hard freeze. When the sap and fibers are frozen the wood tends to split easier.

In my later 20s and early 30s I could stand for eight hours in sub-freezing temperatures with my insulated coveralls stripped down to my waist as I wielded my favorite ax, sledge, and wedge. Now in my mid 50s that's no longer the case. I have a lifetime of conditioning to this sort of hard labor, I still lift weights twice a week, do aerobic/stretching several times a week, and I'm lucky to get in an hour's actual splitting nowadays. I've adapted to this turn of events by learning to split awhile, stack awhile, and sit awhile. Point being, don't overestimate your physical ability. If there is any doubt as to your physical condition, go and get a complete checkup before you even think about picking up a splitter. This is most definitely not an endeavor for the faint of heart.

I wear eyeglasses which protect me to a degree but I would strongly suggest that you invest in a good pair of safety goggles. Kickboxing or catchers shin pads are another good idea until you get hang of what you're doing and a pair of steel-toed working boots. A flying wedge or deflected ax or maul stroke can lead to major misery to your shins or feet. I speak from bloodied experience. You'll also need the toughest pair of "Mule Hide" leather gloves you can find. I don't recommend thick insulated gloves as their bulkiness makes it difficult to firmly grip the handle of your splitter. If you're working in extreme cold it's better to wear a pair of plain "Jersey" gloves under your leather ones. This combination makes for better flexibility with added warmth.

The first step in the actual splitting process is determining which tools you'll be the most comfortable with

while attempting to exploit the weaknesses in a given piece of wood and subsequently learning how to use them.

In my youth I used a single-bitted ax and sixteen-pound sledge exclusively. Both wooden handled. The problem with wood handles is durability. All it takes is one overshoot to shatter the handle across the top of a wedge or over the edge of a round. I used to use multiple wraps of duct tape to good effect in an effort to get more mileage out of a given handle.

It was the advent of fiberglass composite handles which really increased the amount of use I could get out of a given implement. I strongly advocate their acquisition.

Through the years I've tried about every variety of maul and handle



Figure 1

style and have settled on a #8 (I suspect this is indicative of 8 pounds as that's the weight of the tool) "sledge-eye" (the type of handle socket) wood splitter head, outfitted with a standard fiberglass sledge handle (see Figure 4). I favor this combination because it serves double duty as splitting device and sledge, is fairly lightweight, easy to handle, highly effective, and nigh on to indestructible.

Contrary to popular myth it isn't necessary to keep your maul or ax honed to a razor's edge. You're not attempting to cut the wood, only to wedge it apart. The sharpened beveled edge serves only to create an entrance for the upper tapered portion of the splitter, be it maul or ax.

If you find that you prefer an ax to a maul I advise against attempting to

use this tool to drive your wedges, though I have done so in a pinch. It's better to keep a sledge around for that chore. Axes do not have the weight necessary to effectively drive a wedge and their striking surface is too narrow to make for safe hammering.

The art of swinging

Speaking of hammering, swinging a maul or ax is part of the *art* of wood splitting. Done well it actually makes the work look easy. Done poorly it can be down right dangerous as well as overly exhausting. Control, control, control is the name of the game, with a bit of technique thrown in for good measure.

Face the intended target with your feet shoulder width or a little better apart. Hold the splitter with your right hand just ahead of the knob at the butt of the handle and your left a few inches below the splitting head. (This is, of course, reversed for you lefties out there, and this lefty position is, in fact, the right hand position for *BHM's* publisher, Dave Duffy, who is also an avid wood cutter.) As I swing up and back the arc carries the splitter behind my right shoulder, through the center of my back and up over my head. At the apex of the swing the splitter handle is merely cradled in the open crook of the thumb and forefinger of my right hand. This is the point where you apply force to the heretofore centrifugal motion of the splitter. The right hand closes and slides down the handle as the splitter passes its apex and begins to descend on the target. At the moment of impact both hands are touching at the butt end of the handle.

Just as my maul makes contact with wood or wedge I flex my knees which reduces the strain on my lower back. To further lessen the strain I select one of the largest and flattest of my rounds to use as a table for the pieces to be split. (This platform also acts as an anvil, so to speak). This way the wood you're working on is about waist height, which tends to



Figure 2

keep your back in a more upright position at impact. As my maul meets the wood and my knees flex I exhale with force. It may sound a little Zen but you actually learn to explode through the wood. (I don't pretend to be a modern Ergonomics expert. I've just discovered through 30 years of trial and error what works and what doesn't.)

Often the hardest part of the program on hamstrings and back muscles is wrestling around to get some of the larger pieces up on the table.

The only real way to perfect your swing is to get out there and start swinging.

As you begin to gain a feel for the follow through and rhythm of this activity you'll soon learn to place your blows in the same spot each time. Unless you're working with really small pieces (five to six inches in diameter) you will seldom succeed in splitting with the first blow. Therefore it is usually necessary to strike your target along the same fracture point on multiple occasions, the wedged portion of your splitter being driven deeper into the block at each



Figure 3

stroke. It's a matter of concentration and control. The wasted effort in having to pump-handle your splitter out of the wood after missing your mark multiple times is a miraculously efficient teacher.

Reading wood

Once you've mastered the tools of the trade the second step involves learning to "read the wood." You accomplish this with your body and mind as well as your eyes.

I mentioned earlier that seasoned wood is generally easier split than green. This is due in part to the presence of "visible" cracks and checks that develop as the wood dries. These sign posts tell you where the wood is most vulnerable to penetration. However, even when the wood seems to be saying, "split me here" you'll still often encounter unseen internal knots, branches, and anomalies even in dried wood which say, "Oh, no you don't."

Let's explore when and how to apply a maul and wedge. If you look closely at Figure 1 you'll see the tiny fissure that I've chosen as my point of attack emanating away from the blade of my pocket knife. In Figure 2 I've tapped my wedge into this crack and as you can see the wood is already starting to split along this pathway. In Figure 3 I'm demonstrating how *not* to drive a wedge. If you happen to strike your wedge a glancing blow rather than squarely on top it will frequently shoot out of the wood (a very common occurrence when splitting green or frozen wood) with extreme velocity.

As you can see in Figure 4 a steel wedge has a tapered side and a flat side. It's been my experience that a wedge will invariably fly out in the direction that the taper is pointing. Moral: if you're not facing either side of the taper your chances of avoiding injury are enhanced considerably. Figure 4 also shows me facing and striking the flat side of the wedge.

You'll notice that the piece of wood in Figure 1 is smooth, round, and easy. This is the kind of wood you want to learn on before taking on problem wood which require more *finesse*.

Normally the only time you'll need wedges is when you're tackling really large rounds or some of the tougher woods such as blackjack oak, elm, ironwood, or hickory. This is part of the "body" reading-wood equation. Any time you give a particular round several of your best licks and the wood does not begin to split, it's time to consider using a wedge. Though it's not a bad idea to rotate the round 90 degrees and try it again before bringing on the steel. Frequently the



Figure 4

grain of the wood will split more ready in one direction than the other. If that doesn't work start driving a wedge.

I believe the worst wood I ever encountered was basswood (also known as Linden). You could hit this stuff with everything you had and the ax would just bounce off. I either had to nibble my way around the outside edge knocking off a little slab at a time (this is also a good strategy when working with really stringy woods such as elm but it's much harder to maintain the control necessary to prevent a glancing blow from jeopardizing your feet and shins) or sink my ax in the heart to create an opening and then try to drive a wedge home that wanted to squirt out with every blow.



Figure 5

Another concern about wedges is mushrooming. After you've used a wedge for some time the repeated blows tend to cause the steel at the top to push out over the sides: see Figure 3. Eventually these mushroomed edges begin to split apart creating potential shrapnel when struck just right. The cure is to periodically grind the edges smooth or to discard the wedge.

The inherent dangers in the use of wedges is why I do not allow onlookers while I'm splitting.

Figure 5 shows what I refer to as a "problem piece." Normally this is exactly the type of guy you want to use a wedge on because the convergence of two limbs is always tough and difficult to split. But with the right approach the job can be done quickly using nothing but your maul.



Figure 6

with little result. Instead, in Figure 6, I've gone after the one clear piece in the block, which split off fairly easily. Next in Figure 7 I've flipped the remaining block over where its surface is less angled and provides an easier target. Figure 8 shows the final product which was achieved in three or four blows.

When dealing with problem pieces always bear in mind the Law of Diminishing Returns. Loosely paraphrased—if you increase the amount of time and labor required to split one



Figure 7

piece of wood then your overall production for that session will decline.

If you're stubborn like me, dealing with some of the worst cases can actually degenerate into a contest of wills, "me against the wood." If you get to this point *stop* and ask yourself if the effort required to triumph over that one bad hombre might be better spent working on the whole. If you can't break down a round into something useable, without extreme measures, then just set it off to one side with others of its kind and move on. This is reading wood with your "mind."

I traditionally use this collection of rejects to fuel the fire ring anytime we've got a mess of folks over for a good ole fashioned country weeny roast. These gnarly toughies burn hot and long while I still get the satisfaction of seeing them go up in smoke.

It's not unusual when I sink my maul into one of the tougher speci-

mens that it will not easily work free for the next blow. In which case I employ the "brute force" part of the equation. Depending on the size of the block in question I reverse my grip (with my left hand at the butt end of my splitter and my right directly beneath the head), heave the block straight up over my head in one motion, and slam the flat side of the maul down on my table log. This maneuver drives the block down onto the wedge-shaped maul and almost always achieves a split. The risk here is that your splitting tool isn't stuck as tight as you thought it was. I've gouged out a chunk or two of hide when my splitter pulled out of a large piece (50 to 75-pounders), just as I applied downward pressure, dropping it straight down my back.

A safer option is to bring out your wedge and drive it in next to the stuck tool with a spare ax, sledge, or maul. This generally widens the gap enough to free the encumbered splitter.

If you routinely work with large rounds (24 inches or more in diameter) it's a good idea to keep a couple of 3' x 5/8" or 3/4" round bars flattened or tapered on one end around to separate split halves (rebar works really well for this purpose). Sometimes when you drive a wedge in as far as you can the given round still won't split all the way through. You just insert the bars into the crack on each side of the wedge and push with one arm while pulling with the other (scissor fashion) to finish split-



Figure 8

ting the piece. Else you have to push the round over on its side and drive another wedge in at the bottom to finish the split.

This concludes my outline of the methods and cautions I employ when tackling the age old job of getting in the wood.

I believe that I've made it pretty clear that this activity isn't for everyone. But for those of you who really embrace the satisfaction of accomplishment through good old fashioned physical exertion, hand-splitting can be a really worthwhile endeavor. Not to mention the fact that it's some of the best therapy I can think of in this stressed out world of ours.

If I remember correctly Former President Ronald Reagan used to periodically repair to his California ranch just to spend some time swinging away with his favorite ax. I'll wager that he understood the soul refreshing quality of simple physical labor.

Always remember, "Nothing warms you more times than wood." Δ

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Standby battery charging techniques can ensure engine startups

By Jeffrey Yago, P.E., CEM

Those of us living beyond the suburbs own various sizes and types of yard and garden machinery. From the mandatory riding lawnmower for those weekend warriors with one-acre yards up to 4-wheel drive diesel tractors for working farms, everywhere you look there are engine-driven machines to make rural life easier. Many of us now also own RVs, ATVs, log splitters, garden tillers, leaf vacuums, chipper-shredders, portable generators, and garden tractors, and each may use some type of battery that must stay charged.

Larger farms have motorized hay balers, planters, plows, and an endless array of other specialized types of crop machinery. If you are like me, your little stable of power machinery sits weeks or seasons between uses and rarely start when needed due to discharged or dead batteries. The pull cord starter is now a rare exception, not the rule, so you are left with few options. A typical **flooded lead acid battery** will lose up to one percent of its charge per day while idle. In just over two months, this would mean a drop to almost half the original amp-hour capacity.

The solution for most homeowners would start with a search for that

rarely used \$10 battery charger and tangled cables buried somewhere in the back of the garage. Since tractor batteries never fail when parked next to a wall outlet, the next task is locating a 100-foot extension cord. After finally figuring out which cable goes to which battery terminal and in which order, the deceased battery is

few years as manufacturers search for higher amp-hour capacities in smaller packages, lower weights, and zero maintenance.

There are many new battery design features that lower weight and increase charge density, but most have been accomplished through very exotic materials and chemicals that

are difficult or impossible to recycle, not to mention having a much higher cost. On the other end of the scale, the old technology and fully recyclable flooded lead acid battery has also undergone some major changes. To eliminate periodic water refilling, most flooded-type car, truck, and marine batteries now include gas recombiner caps that take the venting battery gases and convert them back to a liquid, which then drains back into the

battery cells. These special caps are usually permanently attached as the liquid electrolyte is intended to last the life of the battery.

To reduce maintenance even further, battery manufacturers now offer **valve regulated lead acid (VRLA) batteries** in both gel cell and **absorbed glass mat (AGM)** designs. Unlike the maintenance-free flooded liquid electrolyte batteries, VRLA batteries are completely sealed and



A small solar module, attached to the roof of this tractor, ensures that the starter will still turn over, even after a long period of idleness.

brought slowly back to life. There must be a better way, and new battery charging technologies are providing several good solutions to this age-old problem.

Battery Design 101

Before going into more detail on how you can keep all of your idle equipment batteries fully charged, let us briefly review some battery design basics. Battery technology has undergone major changes during the past

Comparison of battery charging voltages

12-Volt Battery Type	Bulk Charge Volts	Float Charge Volts
Open flooded (lead antimony)	14.5	13.4
Sealed flooded RV/Marine	14.4	13.4
Sealed AGM lead acid	14.4	13.6
Sealed gel lead acid	14.1	13.5

pressurized and can be mounted in any position, including upside down.

The valve regulated gel cell is still technically a lead acid battery, but the acid and water electrolyte have been converted into a jelly or paste, which is injected into all internal spaces around the lead plates just before the battery is permanently sealed. The valve regulated AGM batteries have porous fiberglass pads pressed against each side of the lead plates, which are then soaked with liquid electrolyte prior to battery sealing. These valve regulated sealed batteries do not have any filler caps and do not require any maintenance.

Although more and more mowers and garden tractors are now being sold with sealed gel or AGM batteries, there are still many conventional

flooded lead acid batteries in service due to their much lower replacement costs.

Conventional battery charging

When planning an alternative method of maintaining the charge for your occasional-use motorized equipment batteries, it is very important to identify which battery type you have, since different battery types require different charging voltages. This also means that many older style battery chargers are not suitable for charging many of the newer battery types.

Most published battery charging data tables are based on a standardized ambient temperature of 77° F. Higher or lower battery temperatures will require adjusting the manufactur-

er's recommended charging voltages to achieve the same level of charge. As a rough guideline to determine which voltages to use, it is recommended to subtract 0.1 volt from the table values above 85° F ambient. Below 55° F ambient, it is recommended to add 0.4 volt. When charging below 35° F ambient, it is recommended to add 0.7

volt to the table values. Many of today's newer battery chargers include a temperature sensor that takes care of this adjustment for you.

When referring to the following battery charging comparison table, note how a higher charging voltage is used during the initial bulk charging period than used for final float charging. This provides a shorter overall recharge time, while reducing the chance for overcharging at the end of the charging cycle. Be sure the battery charger you use has the appropriate output voltage for the battery type to be charged; if in doubt, check the manufacturer's charging information that came with your battery.

Low-cost battery chargers usually do not have automatic cycle or timer controls, and provide the same charging voltage, regardless of how discharged or over-charged your battery may be. If left connected for an extended period, these inexpensive chargers can easily damage a battery by "boiling" all of the electrolyte out of the battery. If the battery is sealed, this overcharging could actually destroy the battery.

More expensive battery chargers include automatic controls that constantly take sample measurements of the battery's present voltage through the charging cables, and adjust the charging process accordingly. These newer chargers start the charging process with a high bulk charge voltage and amperage to minimize charging time, then automatically switch to a lower absorption charge rate as the battery reaches a fully-charged state.

Finally, after fully recharging the battery, these more sophisticated chargers switch to a very low float or trickle charge, which is just enough current to offset the normal charge loss for a battery in a standby or idle state. These chargers usually have a battery selector switch or jumper to modify all charging voltage and current setpoints as required by each battery type.



Even a small riding mower can benefit from the installation of a solar panel that ensures its battery is always ready.



VRLA batteries are completely sealed and pressurized and can be mounted in any position, including upside down.

Standby battery charging

We are going to assume the charging systems on your mowers and tractors are providing adequate bulk charging to keep the batteries fully charged while in use, but you need some way to provide a float charge for those long periods when your equipment is not being operated and the batteries are slowly discharging.

This means any battery float-type charger we install to hold a battery at full charge does not need to have a high charging amperage. However, it will need to have battery monitoring technology to prevent over-charging and boiling all of the electrolyte out of the battery. I have found two very reliable products to do this, and both can be installed with minimum

wiring skills and tools.

Most solar module manufacturers now offer a small self-regulating version of their larger solar photovoltaic panels. These modules are usually 5 to 10-watts in size which is 1 to 2 square feet in surface area.

Some manufacturers make their solar modules using non-glass covered solar cells bonded onto the surface of a metal sheet, as shown in the accompanying photos of actual installations. Several manufacturers offer a module made of an unbreakable plastic laminate solar material mounted in an aluminum frame, which is ideal for more rugged applications.

One manufacturer even offers a flexible solar sheet having an adhesive backing that can be bonded directly onto metal roofing or a metal engine enclosure. All of these self-regulating modules include an internal diode or a reverse flow protection circuit to keep the battery from discharging back through the connected solar module when the sun is not shining. If you choose to use a larger

non-regulated solar module, you will need to add a charge controller to regulate the battery charging process. Without a reverse flow protection diode or a charge controller, your solar charging system may discharge more of the battery charge at night than it will make up during a sunny day.

Connecting a self-regulating type solar

module to any battery is simple. These modules are usually shipped with several feet of pre-wired cable ready for direct battery connection. No fuses, switches, or other electrical equipment are needed due to the very low voltages and currents produced. These modules can be mounted directly to the roof or motor housing of the mobile equipment by screws or bolts. Of course the obvious downside for any solar powered battery charger is the solar module must receive sunlight to work, which is not possible if the equipment is sitting in a garage or not facing the sun.



For equipment normally kept inside a shed out of the weather, your best charging solution is an electronic battery float type charger such as this 120-volt VAC battery float charger.

If you have engine driven equipment that are normally kept inside a shed out of the weather, but you still need to keep the battery charged during weeks or months of non-use, your best charging solution is an electronic battery float type charge. These units are approximately the size of a small box of tea, and can be permanently mounted directly under the hood or engine cover of your motorized equipment. Instead of the usual alligator clamp type battery connectors, these battery wires terminate with large diameter ring terminals held in place by the battery terminal bolts. The 120-volt power cord can be left plugged in continuously, since these chargers will not overcharge or over-



Inexpensive solar modules, 5 to 10 watts in size and 1 to 2 square feet in surface area, are adequate for maintaining a charge on an idle battery.

Useful websites

Battery maintained chargers

BatteryTender Chargers

www.batterystuff.com

Schumacher Chargers

www.batterychargers.com

BatteryMinder Chargers

www.batteryweb.com

Accupro Chargers

www.dry-it-out.com

ChargeTek Chargers

www.chargetek.com

Solar battery chargers:

www.batterystuff.com

www.baproducts.com

www.rvsupplywarehouse.com

Solar chargers for commercial and industrial applications:

www.pvforyou.com

heat a battery even if never disconnected.

Since they are only providing a very tiny trickle charge to maintain an already fully charged battery, they use only a minimal amount of electricity. I like to use these on all standby electric generator installations since generator starter batteries are notorious for reaching their fully discharged state just in time for the next power outage.

Regardless of which standby battery charging method you use, the next time you drag that riding mower out of the garage after a long winter, it should start right up. Unless of course the gasoline you accidentally left in the tank has now turned into paint thinner.

(Jeff Yago's latest book titled, *Achieving Energy Independence—One Step At A Time*, provides a very good introduction to solar power systems and alternative battery charging techniques. It is available from the Backwoods Home Magazine's Bookstore—see the order form on page 88—or by calling 804-784-0063.) Δ



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Keeping cats out of the garden

By Tom R. Kovach

If you own a cat or cats, or if your neighbors do, remember, cats do not belong in gardens—any kind of gardens, whether they be herb, vegetable, or flower gardens.

Cats can carry parasites that pose a health hazard to humans. And if a cat starts using your garden as a litter box, it could cause you health problems. Produce that has direct contact with the soil should always be thoroughly washed before storage and then washed and peeled before being used.

As a gardener, you can pick up any parasites that might exist in the soil through any cuts or openings in your hands when you work the soil. Wear gloves and wash your hands very well each time you work in the garden. Do not go into the garden with bare feet. Some folks say that mothballs will

repel cats. I'm not sure about that, except that some people also don't like the smell of mothballs.

The experts tell me that the best way to keep cats out of your garden is by using chicken-wire fencing or spray repellents. If you plant in rows, lay the chicken wire in long strips



between the rows of vegetables (or other items, flowers, herbs, etc.).

Before you use repellents, check with your doctor or your local poison control office to make sure that the product is safe for children playing nearby. And the repellent must be applied regularly.

If you want to spend a few bucks, there is another item that is said to work. It is the Scarecrow Motion Activated Sprinkler, produced by Contech Electronics Inc. It's a battery powered, motion-detecting lawn sprinkler that squirts water from its pulsating sprinkler head. Cats (who aren't that wild about water to begin with) are startled by the noise and the spray of water, and will hopefully avoid that area in the future. The company, located in Canada, claims that 86% of its customers say the product repels cats. It covers up to 1,000 sq. ft., and costs \$79. It's available online at: <http://www.scatomat.com/Products/>. Or call: 1-800-767-8658. Δ

Black walnut warning

By Tom R. Kovach

The toxin in the roots of black walnut trees can cause problems with other plants near those roots.

Black walnut trees produce juglone, which is a substance that is toxic to certain other plants. Tomatoes are very sensitive to juglone, as are other members of the tomato family. These include eggplants, peppers, and potatoes. Other plants sensitive to juglone include blueberries, blackberries, apple trees, white pines, azaleas, and rhododendrons.

Plants or trees affected by juglone can be killed or injured within one to two months after they have come in contact with the root zone of black

walnuts. The toxic zone occurs on average in a 50 to 60-foot radius around the trunk of a mature tree, but can be up to 80 feet. The area affected extends outward each year as a tree gets bigger. Young trees two to eight feet high can have a root diameter twice the height of the tree, with susceptible plants dead within the root zone and dying at the margins.

Garden plants that are not sensitive to juglone include onions, corn, beets, and beans. There are a number of trees, vines shrubs, ground covers, annuals, and perennials that will grow in close proximity to walnut trees.

Because juglone breaks down when exposed to air, water, and bacteria,

walnut leaves can be composted. The toxic effect can be degraded in two to four weeks. In soil, breakdown may take up to two months. Black walnut leaves may be composted separately and the finished compost tested for toxicity by planting tomato seedlings in it. Sawdust mulch, fresh sawdust, or chips from black walnut are not suggested for plants which are sensitive to juglone. But the composting of the bark or walnut chips for at least six months provides a safe mulch even for plants sensitive to the toxin.

For more information you can check with your local agriculture agent. Or get the publication: *Toxicity of Black Walnuts towards other Plants*. Go to <http://www.extension.umn.edu>. Click on *Publications* and then *Briefs* to search for the publication. Δ



When you've had a long day out in the fields, you deserve a break. And a bud. No, I don't mean a beer. I mean a good meal, featuring, of all things, flower buds. Now before you toss this down, think about it. You are probably very familiar with several flower buds, commonly eaten in most homes: broccoli, cauliflower, and artichokes. I don't know how many times I've gotten busy with other things, only to go out in the garden to pick one of these, only to find that I was too late. The buds were in full flower, past their prime as a vegetable.

In the wild, there are many, many flowers and flower buds that are not only *edible*, but actually choice fare for the table. Native Americans regularly dined on these tender, seasonal delights. If you've been following the *Harvesting the Wild* series, you've already learned about dandelion and cholla buds. Let's take a look at several other common buds and tasty flowers available to us. While they are most often thought of as "survival" foods, they form an extended garden for our family, and many other backwoods dwellers.

Milkweed

Nearly everyone is familiar with the common milkweed, with its large

oval leaves and seed pods that pop open in the fall, sending fluffy parachutes sailing through the air. As these dry seed pods remain on the dead plant through the winter, it's usually easy to identify the next spring's milkweed patch. As with all wild plants, the wild forager should make sure the plant is the common milkweed before consuming any part.

As the milkweed gains mature height, clusters of buds form and begin to open. These flat clusters of buds open to lavender flowers. The best time to harvest milkweed buds is when they are tightly closed. Snip these buds from the plant and gather a nice bowlful. To eat, simply bring a pan of water to a boil, adding a pinch of salt. Then boil for four minutes. Drain and discard the water. Boil briefly in two more changes of water, then drain and enjoy with butter and a squeeze of lemon, if you desire. Milkweed buds are very good. The reason for the three boilings is to remove any trace of bitterness from the milky sap.

Also very good are the very young milkweed pods. These are best eaten when only an inch or an inch and a half long. Simply pluck these immature pods, then boil for four minutes, draining and discarding the water. As with the buds, boil again for a minute, twice, discarding each water. Then

boil for about 10 minutes in fresh, salted water until tender. You will think you're eating okra. And like okra, you can also slice and bread the pre-boiled pods and deep fry them. They taste like okra, but are not as "slimy."

Immature milkweed pods are a valuable addition to meat stews and soups.

Yucca

The common yucca is found just about nationwide. It's tough, pointed, strap-like leaves make it look pretty dry and useless. But you should taste the small, tender flower buds that form along the tall flower stalk in the late spring. Pick the buds when they are quite small and tight and you will think you are eating fresh garden peas. They are very succulent and tender.

Simply pick these buds as you would peas, then boil just enough to make them tender, not mushy. I like them either with a pat of butter and sprinkle of salt, or in a light cream sauce.

Another favorite of mine is to harvest the just-opened yucca flowers on a cool morning. Dip them in your favorite vegetable dip and eat raw or



The buds and flowers from the yucca are very tasty.



Male flower—note no bulge below flower.

Succulent squash and pumpkin flowers are a “new” traditional vegetable.

take them home for lunch. While they are still very fresh, you can also dip them in deep frying batter (such as tempura), then deep fry briefly until just crisp and golden brown. They are also excellent served with a sweet and sour dip.



The amateur wild forager would do well to harvest milkweed from plants showing dried pods from previous years' growth to avoid confusing edible common milkweed from toxic dogbane (smaller leaves, banded stems, and no pink flowers). As with any new wild food, sample a small amount first to avoid upsets due to sensitivity to a certain food.

Wild daylily

How about the common wild daylily. This large, showy orange flower forms on a tall stem, accompanied by many other buds, as each flower only stays open for a day, hence its name. The plant is a shaggy bunch of drooping, strap-like leaves. In many areas, the wild daylily fills ditches and roadsides for miles. Not only is the daylily gorgeous, but tasty, as well.

Yes, you can eat the domestic daylily, but with so many new colors and variations it seems almost a shame to eat the flower buds. But if you get tempted, just remember that the flower would only last a single day anyway, and there will be many more very soon.

Daylily buds are best harvested when fairly long, but before they show any sign of opening. I like them dipped in batter and fried, but my very favorite is to make egg foo yung with them. Simply whip up the whites of two eggs per person, add a pinch of salt, and a sprinkle of hot chile, if you like. Then chop several daylily buds, along with one small onion.

Gently fold in beaten egg yolks and vegetables. Fry four-inch wide patties

in vegetable oil until done. Serve warm, topped with sweet and sour sauce or traditional egg foo yung sauce, which is 1½ cups chicken broth blended into 1½ Tbsp. cornstarch in a small pan. Stir in 1 tsp. soy sauce, ½ tsp. salt, a dash of black pepper, and a ½ tsp. sugar. Cook over medium heat, stirring constantly. When thickened, serve hot over egg patties. These are very good, and nearly everyone loves them. (Just don't tell folks they're dining on flower foo yung.)

And if these aren't good enough, you must try batter-fried whole, open daylily flowers. I especially like the new hybrid domestic daylilies that have a thicker, ruffled petal. They have more substance than their wild cousins, but the wild daylilies are pretty darned good, as well.

Violet

There are many violet species which grow throughout North America, ranging from white, yellow, and, of course, violet including bi-colored flowers. All are edible. While the leaves can be eaten as one would spinach, as a child my very favorite was violet flowers. The new flowers



Pink or common milkweed provides many tasty foods throughout the season.

are crunchy and slightly sweet. You can toss a handful on top of a salad to beautify it. Or throw some in a light-colored Jello dessert after it has cooled a bit. Pioneer children thrilled to violet candy, which was simply moist violets dipped in precious white sugar, then allowed to dry. This creates a delicate shell around the sparkling flower. A very pretty "candy."

Pumpkin and squash blossoms

While not "wild" in the true sense, you will think the pumpkin and squash vines have run wild by the time they bloom. If you pick the male flowers (the ones that do not have a slight bulb at the base), you will not damage your future crop at all. These flowers are excellent when slightly stir fried with mild chiles and onions. Or you can dip them in tempura bat-



Wild violets make an interesting addition to a wild spring salad.

ter and deep fry them until golden brown. Serve with your favorite dip. I

like them with a bowl of chili and sour cream. Dip them first in the chili, then just a bit of sour cream. They are *so good*.

You can also stuff pumpkin and squash blossoms that are open, nearly all the way. Simply mix up your favorite meatloaf recipe, including bread crumbs, then gently stuff each blossom. Tuck the ends of the petals in and repeat until the baking dish is full. Bake at 350° until almost done, then sprinkle with grated cheese and drizzle catsup over the top. Bake until done. Be ready for raves.

Why don't you try some of these delectable buds and flowers this year? They are so easy and fun to pick, and even easier to prepare and serve. Have a bud....on me. Δ

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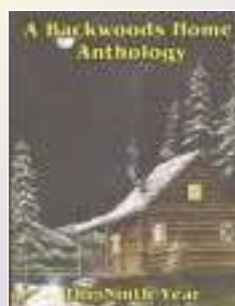
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Sew a baby quilt in two days . . .

for a lifetime of memories

By Ilene Duffy

During my last year of teaching school, I was pregnant with Jacob. I'll always remember receiving a beautifully crocheted baby blanket that one of my student's mothers made for me. So when I heard that middle son, Robby's teacher was going to have her first baby this past school year, I immediately imagined her delight in receiving a baby blanket made, in part, by her adoring class.

Most mother's days are filled with activity and not a whole lot of time to sit around and stitch, and I'm no different in that department, so when planning this quilt I knew that I needed to come up with a design that would be simple enough for me to complete the project in just a few

days. (Besides, the end of the school year crept up and I needed the students' art work for this project.) Here's how my novice sewing abilities turned this idea into a completed baby quilt.

I knew that I wanted each student to take a square of fabric and draw a design using fabric pens. My friend, Rhoda, was the substitute for the class for the last month of the year. So when she and I were going to buy the fabric for the top layer of the quilt, she said, "Since there are 27 kids in the class, let's have each student pick a letter of the alphabet and draw pictures that go with their letter." With only 26 letters to go around, we thought that one student with good handwriting could write out "To Mrs. Margolis, from your 4th grade class."

In order to plan out the pieces to be cut for the quilt, I used graph paper and sketched out a simple log cabin design using squares and rectangles. During the planning stages, I didn't know the sex of the baby, so yellow, green, and a baby hand-print fabric were the prominent colors for the borders of each square rather than blue or pink. Each log cabin square consists of a 6" square of fabric with a 6" x 3½" rectangle sewn to the bottom of the square and a 3½" x 8½" rectangle sewn to the right of the previous two pieces. Here, it's important to note that I used a ½" seam allowance for all seams for the top layer of the quilt. The finished design has 5 log cabin squares across and 6 going down the quilt for a total of 30. The students used 27 of the squares and the remaining 3 were designed by the 2 substitutes for the class and me.



Photo: John Silveira

Mrs. Margolis' 4th grade class with the completed quilt

The following is a list of the materials I used to make the quilt:

- 30 6" squares of fabric (9 pink, 9 blue, 6 yellow, and 6 green)
- 1 1/3 yards of 45" fabric for the back of the quilt (I had loads of a baby hand-print fabric on hand that I had previously purchased)
- 25 rectangles of fabric, 6" wide by 3 1/2" high (13 baby print, 6 yellow, and 6 green)
- 4 rectangles of fabric, 3 1/2" wide by 6" high (2 baby print, 1 yellow, and 1 green)
- 20 rectangles of fabric, 3 1/2" wide by 8 1/2" high (10 baby print, 5 yellow, and 5 green)
- enough quilt batting to fill a 40" by 44" blanket
- enough of the baby print fabric to cut 4 strips of fabric, each 2" wide for the binding of the quilt (2 strips 45" long, 2 strips 41" long)

Being a novice seamstress, the procedure for putting it all together was quite simple. I measured and carefully cut all the squares and rectangles. After all the artwork was completed

on the fabric squares, it was time to stitch. Using my design on graph paper as a guide, I sewed the bottom of the first square to its corresponding 6" wide by 3 1/2" high rectangle, then ironed the seams open. In fact, I was diligent about ironing all the seams open right after sewing them. A long rectangle (3 1/2" wide by 8 1/2" high) was sewn to the right of the previously sewn pieces to form the first log cabin square. Again, I referred to my graph paper guide to make sure I had the correct color for each rectangle before sewing. I sewed together all 30 log cabin squares and placed them in order in a stack.

The next step was to sew the top 5 log cabin squares together, then the second row, etc., until I had all 6 rows sewn together. Of course, the last step in the piecing of the quilt was to sew the 6 strips of rows together, from the top of the quilt to the bottom. In one evening I had the whole top layer pieced.

My next step was to get Dave to take the boys to school the next morning so I could play hookie from my magazine duties in order to have time to complete the quilt during daylight hours. First I cut the fabric for the bottom layer of the quilt. I cut it so it was about two inches larger on all four sides than the top layer. I cut the batting so that it would also have about two more inches on all four sides than the top layer.

I cleaned off my kitchen table to use as a nice flat surface in order to baste all three layers together. I layed out the bottom layer, right side of the fabric facing the table, then the batting, then the pieced, top layer



Mama Kelly, baby Marisa, and her new quilt

with the right side facing up. I used a needle and long pieces of thread to hand baste all three layers together. I had read in a quilting book that it's a good idea to leave the extra margin of the batting and bottom layer of fabric before quilting, as the process of quilting the three layers together has a tendency to cause the top layer to be slightly different in size after stitching.

I decided to do all the quilting using my sewing machine, rather than by hand. I also knew I wanted to avoid quilting on the students' artwork, so I kept all the quilting stitches on the border pieces.

After all three layers were completely quilted together, I cut the batting and bottom layer to be the same size as the top layer. Then I took out all the threads from the basting.

The last step was to attach the binding around all four edges. I cut the four 2" strips of fabric for the binding, then sewed the corners together on the diagonal to form what looked like a picture frame the same size as the quilt, then pressed the seams open. I pressed under the raw edges of the binding strips 3/8" on each side and machine-stitched the binding to the top of the quilt, right sides together. I folded the binding to the back side of the quilt and hand-stitched the ironed down edge in place.

The finished project just needed to be washed before delivery to baby Marisa. Δ



Thirty log cabin squares formed this simple, quick-to-make quilt.

Grouse hunting

...the ultimate joy of autumn

By Linda Gabris

Nothing instills such excitement or makes my heart flutter louder than the sudden whirl of a flushed out grouse. No matter how many times I've heard it, the whoosh of wings always comes as a thrilling surprise that startles the daylights out of me, like an electrical shock that I just can't seem to get enough of.

I've been grouse hunting since I was old enough to tote a gun and, as much as I enjoy the pursuit of big game and waterfowl, I have to admit that grouse hunting ranks number one on my list of autumn outings, for not only is it a challenging sport but also a super long season. And best of all is the fact that having a stash of grouse in the freezer means great eating all winter long.

Although opinions will forever vary over what gun and ammo is the best pick for grouse, I think the number one thing for any upland bird hunter to consider is to make sure their choice is powerful enough to deliver a quick, clean kill—but not so powerful that there's nothin' left of the prize but a mess of feathers.

Learning to hunt years ago with my dad in the hardwood stands behind our back stoop, I used an old 20-gauge shotgun which was handed down to me from my father. I lugged

the trusty thing for years before retiring it as a keepsake of cherished memories of my younger days spent in the woodlands. I've been fortunate enough to try out a fair range of makes and models of shotguns over the past number of years, and I must say a 20-gauge is still a favorite pick.

Before I retrieve a gun from my vault for a day's hunt, I consider the state of the woodlands I intend to

distances, I find No. 4 shot works well.

One of the trickiest things about grouse hunting is training your eyes to pick up the perfectly camouflaged forms of these plump birds. I remember when I was a kid how dad would tease me because I couldn't distinguish a grouse up ahead on the trail from a clump of mud. Learning to spot them is like training your eyes to

see stereoscopic images without using 3-D glasses. But once you develop the skill, the image seems to register quickly without strain or over-focusing. Being able to spot the birds on the ground before they burst into air gives a little more time for planning action.

The best woodlands to hunt grouse are those that offer

feed. There are numerous species of birds belonging to the grouse family, and although they are similar in character and habit they thrive on food that is available in their regions. The crops or 'berry bags' of downed birds will reveal their diet trends. Studying the contents carefully will help make future hunts more successful.

Those shot in hardwoods will contain berries and plants familiar on hardwood forest floors. Crops of prairie chickens will be filled with such delights as grain, goldenrod, sunflower, and other common seeds.



Author with a grouse

trudge through. Early in the season when trees and shrubs are still heavily branched in leaves, I find that my 20-gauge with modified choke delivers plenty of spread, and No. 6 shot gives me the penetration for cutting through obstructions. Although it doesn't take a ton of bricks to bring down a grouse, one has to consider the brush factor when hunting in early season and choose a shot that throws a wide pattern. In late season, when the trees are bare and I can keep my eye on the bird for further

Harvesting wild hazelnuts

... getting two birds with one stone

While out in the grouse woods hoping for supper why not keep your eyes peeled for the second tastiest treat in the woodlands-wild hazelnuts. Also known as wild filberts, these little gems resemble commercial filberts except that they are somewhat smaller, their shells are a bit thicker, and their meat is so much sweeter. But best of all they're free for the pickin' and nothin' compliments a grouse dinner more than an elegant coating of these delicious nuts.



Hazelnuts in the wild

American or beaked hazels are native shrubs which grow up to about 12 feet and can be found in abundance across North America growing in sunny spots of mixed hardwood stands. Hazelnut shrubs are often

spotted hugging fences or hemming meadows.

The bark of mature plants is smooth and bright brown while immature twigs are lighter in color and covered in fuzz. The oval, double-toothed leaves have deep, well-spaced veins and are covered in silky hairs giving them a velvety feel. Immature twigs are lighter in color and covered in fuzz.

The shrubs have both male and female flowers that are separate but on the same bush. Male flowers are born in catkins that develop in fall and mature in spring. They dangle from bare branches shedding a shower of pollen on the female flowers that are tiny rusty clusters. In mid autumn the nuts ripen in sets of twos, sometimes threes, snuggled in fuzzy husks that turn from green to brown as they ripen.

One of the trickiest things about harvesting wild hazelnuts is to beat squirrels to the ready nuts. If you pick them too early the nut will not be developed and you'll end up with a heap of empty shells. But if you wait too long, squirrels, who seem to know exactly when the nuts are ready, will hoard them up right under your nose. Best thing to do is hunt down a patch and keep a close eye on it. Cracking a nut with a stone will tell when they are fleshed out and prime for picking.

Make sure you throw a pair of gloves in your pack for gathering the

nuts as the silvery husks are picky on the fingers.

Once home with your pickings, the nuts must be husked. If you want to use a handful of nuts immediately, peel off the husks using gloved hands. If you can wait a day or two before using, the sheaths will wilt and become easier to loosen and peel away. If you've found a good stash of nuts, they can be buried in mud for a week or two and the husks will rot off.



A basket of wild hazelnuts

Hazelnuts can be cracked and eaten fresh or the kernels can be extracted from the shells and roasted in a moderate oven for about 8 minutes or until slightly brown. This gives them a sweeter, nuttier taste.

Shelled nuts should be stored in an airtight container. Unshelled nuts can be stored in a cool, dry place for years although they are so good I can't imagine a stash ever lasting that long.

If you're a huntin' nut who likes to stash away a few treats for winter then you'll love the addition of these tasty little nuts to your pantry.

Birds hunted in or near bogs will have telltale signs of cranberries or blueberries in their bags. Studies show that grouse eat buds and needles of evergreens in wintertime which is believed to help them digest food in place of stones that might be hard to obtain from frozen or snow covered ground. Since they need to fill their

gizzards with stones in order to digest food, grouse are often spotted alongside gravelly paths or streams 'mining' in early morning and evening.

Deciduous stands and willowy scrubland, burned and logged areas that are rich in seedy growth, old orchards, clearings, and edges of forests are prospective places to

tramp grouse hunting trails. I have found that any trek that winds through bunchberry, clover patches, or wild rose bushes laden with bright fleshy hips offers good chances of flushing out a plump ruffie or two.

Grouse hidden in the colorful depths of autumn are often scared up by the rustle of crispy foliage under

the hunter's foot. Drumming and a sudden whirl are thrilling sounds that the grouse hunter must be ready to quickly react to. This reaction is known as "swinging-through" and consists of getting the gun moving faster than the bird. One's instincts must work all at the same time—hearing, then seeing, or vice versa—the bird, swinging the gun, aiming while panning, then pulling the trigger at the precise moment. Grouse are fast flyers and can instantly burst into flight, skimming trees in a cunning, dodging manner, making a calculated shot the ultimate challenge.

Some grouse hunters enjoy the companionship and aid of a good bird dog which can stir up flocks of birds and are great at retrieving. If you've got a well trained grouser with a begging face that you just can't refuse, then by all means let the devoted critter tag along. Or rather you tag along with him! Sometimes I adopt faithful Old Barney from my hunting buddy to take along on a stroll. Other times I go solo preferring a slower, more relaxed pace.

Next best thing to hunting grouse is eatin' them. One thing that puzzles me is hearing tell of a grouse that was too tough to chew. I've never come across one yet that didn't cut it as a great meal. Especially one dressed in a golden jacket of sweet wild hazelnuts picked from the same woods from whence the bird was harvested. Now this is the crowning glory of a great hunt.



Grouse breasts, coated with the hazelnut breading



The finished dish

Breast of grouse in hazelnut jackets

This is a very elegant dish to serve when you want to impress your hunting partner or a special dinner guest. The grouse breast is tender and succulent on the inside and crispy coated with distinctive sweet hazelnuts on the outside. This recipe serves two, but you can double it as long as you don't crowd the pan.

- 1 grouse breast, de-boned (to de-bone a grouse breast, run a sharp knife down each side of the breastbone, working the meat away with your free hand. Slice each half into two thin fillets. Save bones for another day's soup.)
- $\frac{1}{4}$ cup of ground wild hazelnuts. A few more if doing two birds. (You can substitute commercial filberts if you haven't had a successful nut hunt)
- $\frac{1}{2}$ cup of flour seasoned with pinch of salt, pepper, thyme, and a bit of sweet basil
- 1 egg
- 4 Tbsp. buttermilk or heavy cream butter

Flatten grouse pieces by pounding gently with a mallet. Combine ground nuts and seasoned flour in a paper bag. Blend egg and buttermilk together. Dip grouse into egg mixture, then drop into paper bag and shake until coated. Place on a sheet of waxed paper and allow to dry for about 8 minutes or until nuts are adhered to the meat.

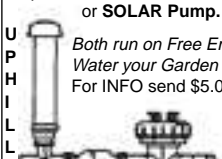
Melt butter and sauté the pieces until golden on both sides. Sprinkle with a few drops of fresh squeezed lemon juice. One breast serves two.

Goes great with a few fried mushrooms dipped and coated in any left-over batter and crumbs. Serve with a crisp green salad. Add wine and you've got it made. Δ

(This article was previously published, in part, in *BC Hunting and Shooting Magazine*.)

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Life in a chicken coop

By Chuck Davis

Living in a chicken coop for four years was a much better experience than it sounds. The chickens were long gone, the pack rats evicted. That was a start but it took a whole lot of imagination to think we could live in that filthy, decrepit structure and like it. But when the work was done, we were in a cozy, warm cabin reminiscent of an early settler's lifestyle. I felt that both the cabin and I were chronologically misplaced in history.

Life in the 12 by 17-foot coop-turned-cabin was a big change into a small space from our four bedroom, two-story farm styled house that had burned to the ground. Significantly inadequate fire insurance left us without sufficient money to rebuild.

Abhorring debt, a building loan was not an option. We stayed temporarily in a small house we had in town, but town life was intolerable, where privacy required curtains and closed doors, shutting off light and air. Incessant city noise bashed our senses. Sleep was difficult and peace foreign.

For happiness we had to go where our horses and dogs were, where bugling elk are heard and moose meander. Tall pines mantled the mountains behind us, a defunct gold mine over the hill one way, Georgetown Lake the other, and to the south a several-hundred-acre mountain meadow stage, the rugged Pintlar Wilderness Area. It was a grand, idyllic location, where I could pee off the porch if so inclined and not offend neighbors or get crossways with the law.

After the house fire, only four buildings remained on our few acres: two framed garages suitable for small Model T Fords, a deteriorating barn, and the 60-year-old, recycled-log chicken coop in serious disrepair.

The coop had no foundation. Bottom logs sat on large flat stone and some showed ominous signs of rot. Chinking was cement mortar, mostly crumbled away. The roof, a layer of asphalt roofing over 2 by 12-inch boards, kept the rough-sawn ceiling boards intact. A foot-deep layer of chicken dung covered the dirt floor. Rags and cardboard nailed to some interior walls gave pause to steady mountain winds.

When I broached the idea of remodeling the coop into our home my wife, Trisha, was surprised but saw the possibilities and was actively involved in the clean-up and build-up. She is now a registered nurse but had worked as a drywall finisher and tile setter when younger. I was an electrician and now claim to be a chainsaw carpenter.

Work began on the coop in October and we moved into a cozy cabin in February. First the roof was rebuilt. A frame of 2 x 6-inch boards on 24-inch centers was built over the existing roof so 6-inch fiberglass insulation could be installed. That frame was sheathed with half-inch plywood, a layer of rolled asphalt roofing, then metal Delta Rib roofing. It is leak proof.

Next, the chicken waste and a foot or so of dirt and rocks were removed to make room for the insulated wood floor. The joists are 2 x 8-inch boards on 16-inch centers. Working from above, wood strips were nailed to the joists 6 inches below the subfloor level. Quarter-inch plywood was cut to size and laid between the joists, with 6-inch insulation on top of that. The rot in base logs was superficial and chiseled away before pouring the concrete foundation. A portable electric cement mixer was used to mix the wheelbarrow-sized batches.



The "before" of the kitchen area



Trisha Davis sits in the finished kitchen.

The subfloor is $\frac{5}{8}$ -inch plywood. Six-inch tongue and groove pine flooring, salvaged from the burned house, finishes the floor. The wood had been protected by water-soaked wool carpets and Congoleum linoleum. All areas with synthetic textile carpet burned through to the ground, wet or not.

Interior log walls had 60 years of accumulated grime, the rear wall being the worst. Between tacked up cardboard and the logs, pack rats had nested for decades. The excrement and urine had so fouled the logs they were beyond cleaning and an eyesore. Decontaminated with a strong bleach solution the wall was framed out, insulated, plastic sheeting vapor barrier put in place, and sheet-rocked. Painted white, the wall brightens the cabin. With sponge, rags, brush, and a solution of household cleaner, Trisha tackled the walls, scrubbing them into like-new beauty. And then she did the chinking.

To seal the cabin logs we opted for a commercial chinking system rather than mortar, which crumbles as log walls settle. Romex wiring was run between logs prior to chinking. Outlet and switch boxes were fitted into chiseled out openings in the logs. To begin, strips of closed-cell foam were

snuggly fitted between logs as an insulating filler, reducing the amount of chinking needed. The strips we used are called backer rod and resemble black, oversized, soft spaghetti. We bought 100-foot rolls in diameters of $\frac{1}{4}$ and $\frac{1}{2}$ -inch and so on to correspond to the size of the space to be filled.

Log Jam is the brand of chinking we used. It is a gritty textured latex compound sold in five-gallon buckets. A bucket is about \$110 in Bozeman, Montana. The stuff is flexible and won't pull apart with minor log movement and is available in several earth tone colors. It is applied with what resembles a large caulking gun and is smoothed with a wet sponge.

Our water line is buried six feet deep as winter cold can freeze the ground for several feet. We dislike the spider web of overhead power lines, so we buried our electric and phone service in two-foot deep trenches. Utility ditches and foundation excavations were dug

after spring thaw. Until then water was carried 50 feet from an existing frost-free hydrant. Kitchen waste water was collected and hauled in five-gallon buckets. We learned a lot about water conservation. A Porta-Potty was in a nearby tool shed.

We kept the original hen house door, but added a barn latch. We call it a



The original 60-year-old, 12' x 17' chicken coop

Davis door as it is barely more than $5\frac{1}{2}$ feet high, just about right for the stubby Davis clan. Picture windows are double glazed while the small kitchen and a crank-open window are single panes of glass.

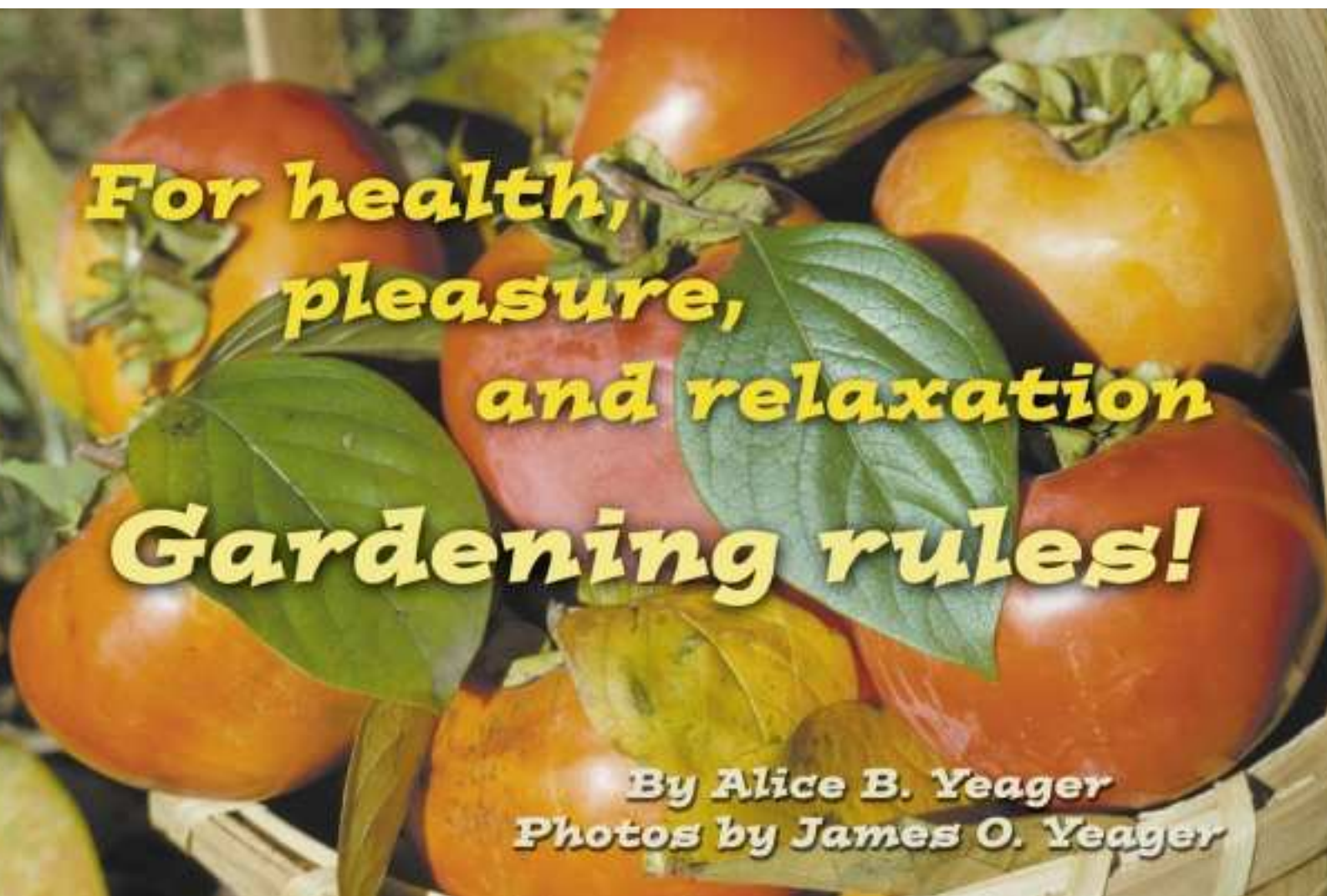
The finished cabin is heated by electric baseboards. A wood heater in that small space would have kept us unbearably hot. As it is, the big south facing windows deliver enough solar heat that the door and windows are open even on the coldest of days.

The following year a log-walled 12 by 18-foot addition was built for a bathroom and bedroom. Logs came from a friend's property, all of which were dead-standing Lodgepole pine. The largest was 22 inches at the butt. I used a draw knife to peel the bark, then felled the trees and handled them with the aid of an A-frame boom I built for my pick-up truck. A front-mounted electric winch provided the lift to place the logs into walls.

We don't live in that little cabin anymore and I sorely miss it. It opened the door to a new way of living. We now have 20 acres, 2 creeks, no electricity or running water, and a stack of logs that will soon be a log-walled, straw bale-insulated home we will build with the aid of the boom and the cement mixer. But we'll always be able to say we once lived in a chicken coop. Δ



Chuck stands before the not-yet-finished coop at a point when the windows were in.



When planning your garden, don't overlook dwarf fruit trees. Many varieties of Japanese persimmons are a delight to eat even before they are fully ripe as they are not mouth-puckering.

There's something about a garden, from spring start to fall finish, that is invigorating. I'll admit that the first few digs in the spring can lead to some sore muscles and second thoughts, but, after that, everything falls into place and gardening becomes not just a pleasant experience, but a healthy exercise and a relaxing time. Plus the end products of gardening are a bounty of healthy food.

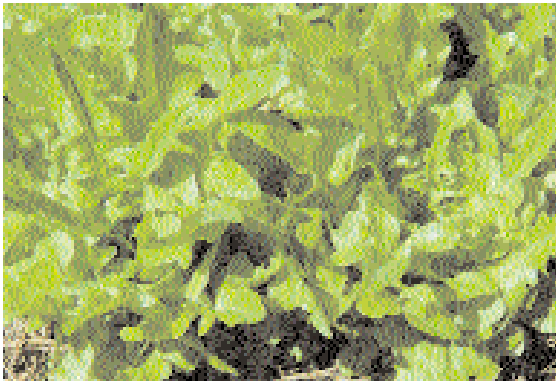
Gardens don't have to be large and capable of producing enough food for a family of 10. They can be any size your space and spare time will allow. A nice amount of produce may be harvested from a small garden if you stick to plants that are not large and rambling like watermelons and winter squash. Space given to early maturing

vegetables (spinach, lettuce, radishes, and others) may be used for summer plants and then fall greens thus making threefold use of the garden.

There is no denying that there is healthy exercise connected with gardening whether you're growing vegetables, herbs, berries, or whatever. Soil has to be loosened up in the spring, as winter rains and snow are not known to leave dirt in a ready-to-use condition. If plenty of organic matter (leaves, grass clippings, pine needles, etc.) was heaped on the soil during early fall, it should be friable and a pleasure to work. If it was left bare to the elements, you can count on putting out more effort to cultivate it. Fall preparation definitely makes a garden easier to deal with in the spring.

In our garden we have gone entirely to raised beds (4-feet by 8-feet each). This makes it easier to confine mulch to the beds and to water when necessary. Between them we have a mixture of white clover and native grasses. We mow the aisles and put the clippings in an enclosed composter with vents for air circulation and rain seepage. Also added to the composter are kitchen scraps such as fruit and vegetable peelings, egg shells, etc. No meat products or grease are used. Nothing is added that will require a long time to decompose, i.e., sticks, shrubby trimmings, etc.

Every garden should have a composter or a wire enclosed spot where compost may be produced. Keep it fairly moist and make it easily accessible to stirring and removing the finished product. You'll wonder how



Fresh young garden lettuce combined with other spring greens, including green onions, makes a delicious side dish or salad.

you ever managed without this boon to the garden. Not only is one's own compost supply convenient to have, but you'll never get such lush results from a bag of chemicals. Plants fed with decomposed organic material have a longer life span, are more productive, and are more able to cope with hot summers than the ones dependent on poor soil and chemicals to see them through.

Mowing between our beds creates a pleasant, relaxing walking situation. No dirt clings to our shoes and there's the sensation of walking on a carpet. A fringe benefit comes when we step on small runners of aromatic plants such as peppermint and pennyroyal that have crept into the aisles. Brushing against a bed of sweet basil fills the air with another delightful odor.

Gardening can begin as early in the spring as the climate will allow. However if a gardener is not interested in early crops such as English peas and carrots, he or she may prefer to wait until all danger of frost has passed and go for summer vegetables—squash, tomatoes, beans, etc. My advice has always been to plant what you actually like and will use. There's no point in planting rutabagas if you hate them with a purple passion.

While deciding between likes and dislikes, give some thought to the

vitamin and mineral content of what you want to plant. For instance, spinach is high in Vitamin A and potassium, with a goodly amount of calcium. Beet greens (especially tops of red beets) are even richer than spinach in these benefits. Garlic, that wonderful seasoning for all kinds of cooked foods, salads, etc., is not only easy to grow, but it is said to be very beneficial for the digestive system and is helpful in high blood pressure cases.

Folks who suffer from a lack of iron should definitely lean toward planting beans, as they contain a number of vitamins and minerals including iron. Beans may be served in so many ways that it's hard to become tired of them. Our ever popular tomato gives us Vitamin C, phosphorus, and potassium among other health benefits. Ways of preparing tomatoes are countless.

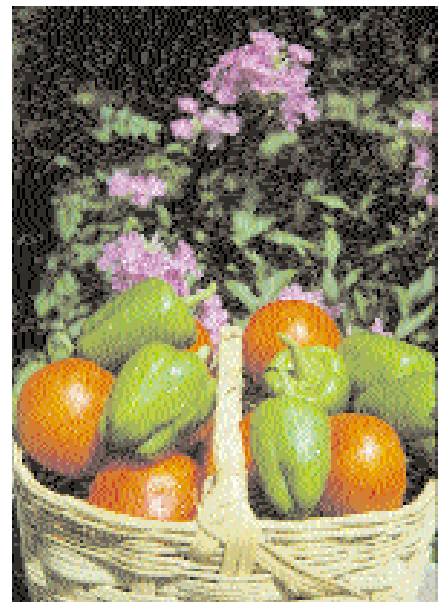
Another wonderful vegetable is the sweet potato. It's chock full of vitamins and minerals, is easily digestible, and is a good body maintainer for persons engaged in physical labor. The Irish potato is also a fine body-building food.

If you have room in your garden for some berries and fruit trees, check out the vitamins and minerals contained in figs, peaches, blackberries, strawberries, apricots, or anything that will grow in your area. If you are particularly interested in the healthful side of what you raise, it might be well to invest in a book listing the vitamin and mineral contents of food plants. It's good knowledge to have at hand.

Moreover, plant with a view to preserving your excess harvest for future use. Some great soups may be made from summer vegetables, tucked away in the freezer and thawed out on cold days for truly tasty and nourish-

ing meals. "Soup's on" has a pleasant and inviting ring to it.

There's quite a time span between planting and harvesting, and unexpected spring cold spells can stunt plants put out too early. We take the precaution of not transplanting tender plants to our garden until after Easter. There is a period known as blackberry winter that occurs right around Easter when blackberry patches are in bloom. This happens whether Easter occurs early or late. Temperatures plunge at night and often go into the thirties. The blackberry plants seem to come through all right, but tender plants can be given a severe setback if not protected. Waiting until after blackberry winter to set out transplants saves us a considerable amount of time and worry. Of course, one can always cover the plants, uncover them during the day, and cover again in late afternoon. Why go to this bother when the plants can be set out at a warmer time and left uncovered?



Tomatoes and peppers, like many other vegetables, should be eaten raw to derive the most health benefits from them. However they are so good used other ways—spaghetti sauce, soups, casseroles, and on and on.

Once the transplants are in the soil, there is the matter of defending them against predators—cutworms, flea beetles, tomato hornworms, snails, slugs, and sow bugs. These are the worst culprits for us. Unfortunately, these pests, as well as many others, are widespread. It seems there's always something that seeks out garden plants for a tasty meal.

Cutworms have become a thing of the past in our garden. Although I don't like to use 10 Sevin Dust, I have found that a tiny bit at the base of cutworm-prone plants will do in the cutworms. Sevin Dust is not friendly to earthworms, and earthworms are important to your garden, so use it very sparingly.

Eggplants look great when first transplanted and usually get off to a healthy start. It never fails that tiny holes like pinpricks begin to appear in the soft velvety leaves. This is the beginning of an onslaught by **flea beetles**. They are little and they jump just like the fleas on animals, so hand-picking them is out of the question. I have found the quickest way to get rid of flea beetles is to lightly dust the leaves with Sevin Dust. I always try to pick a time when there is no breeze blowing so that the dust will be confined as much as possible to the plants with the problem. (Flea beetles also attack the leaves of numerous other garden plants, but they seem fondest of eggplant, toma-

to, and pepper plants.)

Tomato hornworms are another matter. These voracious eaters do considerable damage overnight stripping leaves and tender stems as they go. They will also ruin the green tomatoes and young peppers. Fortunately, the worms are

large and easily seen ranging from two to four-inches in length. They are light green with white side stripes and a black horn on their tail end. They do not sting and, if you are not squeamish about picking up a worm, you can rid your plants of hornworms by hand-picking, thus avoiding dusting or spraying. If you can't locate the hornworm in the midst of the damage, try looking for fresh droppings. If you see a large hornworm with what appears to be small white cocoons on his back, you are seeing the work of braconid wasps that lay eggs on the worms. Young larvae feed off of their hosts. In the meantime, the hornworms continue to dine on your plants. Interesting things go on in a garden.

Snails and **slugs** also zero in on garden plants. They like to feed at night and, therefore, are less noticeable during daylight hours. However, the damage to plants can be extensive. I used to have problems with marigolds literally being stripped of foliage by tiny slugs until I remembered that I had at one time wiped out quite a number of slugs by using small amounts of table salt where they congregat-



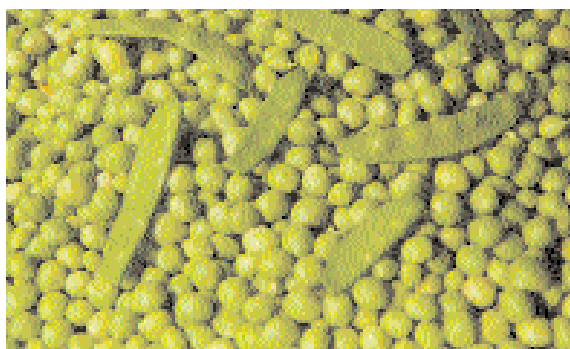
Low on iron? Raise and enjoy beans fresh from the garden. Dried beans are also noted for their iron content.

ed. I extended the same idea to the garden, putting a tiny bit of salt around the base of the marigolds. That got the slugs along with their undesirable cousins, the snails. Old boards or trash make excellent hiding places for these fellows. Diatomaceous earth is also a remedy for getting rid of soft bodied pests, but once dampened by rain or heavy dew it is no longer effective and you have to put out a fresh supply.

Sow bugs used to be prominent around our garden area. They hid under flower pots, bricks, and any other place likely to be moist. Sevin Dust is deadly to them and it doesn't take much of it to eradicate them. Just sprinkle the dust where they hang out. Sow bugs feed on the roots of plants and sometimes plants are almost spent before one realizes the cause of the trouble.

There's a certain satisfaction that only a gardener knows when pests have been dealt with and plants are showing their first blossoms. Then tiny fruits appear and everything looks promising. A sigh of relief is in order and, barring a natural disaster such as a hailstorm, one can be pretty certain of some fresh vegetables being in the offing.

A good book on preserving food comes in handy when a garden produces an overabundance of good



English peas are one of spring's star vegetables. A few hulls cooked with the peas, and later discarded, help to enhance the flavor of the peas.



Sweet basil is only one of many herbs that change ordinary foods into gourmet delights. Gardens should always have a spot for a variety of kitchen herbs.

things to eat. Bookstores have a number of such books. Just be sure instructions apply to whatever you are going to harvest from your garden. You don't need a book that concentrates on how to preserve things grown in New England if you live in the South. Some companies specializing in canning supplies offer their



Okra is cultivated extensively in the South and other places where summers are fairly long and warm weather prevails during the period. It is reported that okra's mucilaginous nature makes it suitable for treatment of stomach ulcers.

expertise in books written from their test kitchens. You can get addresses and prices of those books from new cartons of jar lids and seals for sale on your grocer's shelves. Order early as it sometimes takes a couple of months to receive the books.

I have been gardening forever it seems and I have found that working with a garden not only promotes good nutrition, but it is a great way to relax, enjoy life, and relieve stress. Stress used to be known as worry. Now it is big business as evidenced by the drugs used to deal with it.

Stress can build up until people actually come down with ailments that are hard to define. Many folks end up taking medications that they don't need just because stress is taking its toll. Some individuals with a bent toward physical exercise head for the gym or take up jogging. None of this has ever appealed to me. I'd rather carry a basket of fresh produce from the garden into the kitchen and enjoy the fruits of my labor.

Anyone interested in healthy living and having something substantial to show for time spent, can actually start gardening in the winter when all of those intriguing seed and nursery catalogs make their way into the U.S. Postal system. There's something about the planning stage that at least

takes one's mind off of the dreary weather making it possible to project thoughts toward greener times. Arm chair gardening helps to lift spirits and deal stress a blow.

Isn't it great that most of us have three seasonal choices for gardening—spring, summer and fall? Maybe all three, depending on where you live.

Recipes

Chicken stock:

- ul>
- 1 medium size fryer or young hen cut in pieces
- 2 large celery stalks cut in 3-4 inch pieces
- 1 large carrot cut in 3-4 pieces
- 1 medium size onion, quartered
- 1 clove garlic, halved
- 2 dried bay leaves
- 10 cups water

Put all of the above into a large covered stockpot, bring to a boil, and reduce to simmer. Cook for about 2 hours or until chicken is tender and about to fall off the bones. Strain the stock. If you want fat-free stock, let the stock chill until the fat rises to the top where it may be easily removed. In the meantime, remove the chicken meat from the bones and save it for a



Any gardener with enough room for a few blueberry bushes should plant some. Not only are blueberries "good for you," but they can be used in many ways—jams, muffins, pies, etc. They're easy to pick—no thorns.

later use (chicken salad, chicken, and spaghetti, etc.).

This stock is a must if you want something on hand that you can turn to when time is short. It makes a great base for soups, gravies, and other dishes and may be frozen or canned. The quick way is to let it cool down and put it in airtight freezer containers allowing a half inch at the top for expansion. Date and label containers and put them in the freezer. If you prefer to can the stock, pour the hot stock into hot, sterilized jars leaving about one-inch headspace. Adjust two-piece caps and process at 10-pounds pressure in a steam-pressure canner—20 minutes for pints and 25 minutes for quarts.

Chicken vegetable soup:

8 cups chicken stock
2 cups water (optional)
3 cups cooked chicken, cubed
2 cups green beans, snapped
2 cups okra cut in ¼-inch slices
1 cup sweet basil leaves, loosely packed
2 cups onions, chopped
4 cups tomatoes, chopped*
2 cups whole kernel corn
1 cup bell peppers, diced
1 cup carrots, diced
salt and black pepper to taste

*Before the tomatoes are chopped, the whole tomatoes should be immersed in boiling water about a minute so skins may be easily removed.

Bring the stock and water to a boil. Gradually add rest of ingredients and simmer until the vegetables are tender but not overdone. If you would like a thicker type soup, when the simmering begins add a half cup of rice or some of your favorite pasta—broken spaghetti pieces, macaroni, etc. Cover the pot, but stir occasionally to keep anything from sticking to the bottom.

This is a very versatile recipe. Other vegetables, herbs, and seasonings may be added. For instance, you may have some mild hot peppers that can take the place of the black pepper. If basil leaves are not available, try a couple of dried bay leaves.

Leftover soup may be frozen in airtight freezer containers. Be sure to leave about ½-inch airspace to allow for expansion. Otherwise, you may find tops pushed off of containers or worse.

English pea soup:

3 slices cured bacon
1 qt. water
3 cups English peas, shelled (reserve some clean hulls)
½ cup green onions, chopped
1 cup new potatoes, diced (scrape off thin skins and discard)
2 sprigs fresh mint
salt and pepper to taste

Fry bacon and set aside. Cut in small pieces. Put a quart of water in a good size covered pot and add about three tablespoons of bacon drippings. Put in all the other ingredients including a few clean pea hulls. Bring to a boil and then cut back heat to simmer. When vegetables are tender, discard the hulls and mint. Scoop out about a cup of the potatoes, onions, and peas and set them aside. Puree the rest of the soup in a blender or mash with a fork until mushy. Return to the pot and stir in the reserved potatoes, onions, and peas. Reheat and serve with your favorite crackers or hot bread.

There are a number of variations to this soup. Some folks like to thicken it with heavy cream while it's hot. (Don't boil or simmer after adding any cream.) Others add a bit of flour and water beaten smooth. Thickened versions can be garnished with chopped chives or parsley.

Wilted spring greens:

About a gallon of fresh garden lettuce (Oak Leaf, Bibb, Green Ice, etc.), tender radish leaves, and any other tender, mild-tasting garden greens
4 green onions
3 slices cured bacon
3 Tbsp. cider vinegar
2 Tbsp. water
½ tsp. salt
1 tsp. sugar
¼ tsp. black pepper

Cut off the roots from the lettuce and greens and discard any blemished leaves. Peel off the tough outside parts of onions and cut off the roots. Thoroughly wash all the lettuce, other greens, and onions to remove dirt, dust, or insects. Put in a colander and drain off as much water as possible. Tear all the greens into pieces. Cut the onions into ¼-inch slices and combine with the greens.

In a heavy large skillet or sauce pan, fry the bacon until crisp. Set the bacon aside and cut it into small pieces. Let the bacon drippings cool a bit before adding the vinegar, water, and seasonings; otherwise, there will be a tendency for the liquid to pop all over the place. Reheat. Put in a sizable amount of the greens, quickly adding more and tossing with the liquid until all greens are coated. Do not let greens wilt down too much or they may become mushy. Let them keep a good degree of crispness. Remove them to a serving dish and sprinkle with the bacon pieces.

This makes a delicious side dish or it can be simply enjoyed with some hot crusty bread of your choice. Δ

How to make money from storage building auctions

By Bill Wilson

Buying and selling is a time honored way of making a living. However, like any profession, success in merchandising requires following some fundamental rules. The most basic of these is to obtain items of good quality that people will actually want to purchase, and to acquire them at a low enough cost to ensure adequate profit. Once this challenge is met, the entrepreneur's success is largely assured.

Fortunately, across the United States a huge supply of desirable products exists for low prices. Furniture, electronics, appliances, clothing, books, art, toys, tools, and a plethora of other goodies can be had for a fraction of their true value. The purchaser can use these items themselves, or resell them for a generous markup. Startup costs are minimal: a van or pickup truck (a trailer towed by a car will do) and a few hundred dollars are all that is required to begin your own business.

Finding merchandise

I am not talking about raiding dumpsters, joining wholesale clubs, or fencing stolen merchandise. I am discussing public storage buildings, which you can find in virtually any community coast to coast. Millions of individuals and businesses use these facilities to store all sorts of goods.

Many of them eventually fall behind on their monthly rental bills. After an extended period of non-payment the storage building owner can legally claim the items. He or she will often hold periodic public auctions to sell off the goods in order to recoup a portion of their lost rent.

It is important to remember that the USA has become a nation of pack rats. Consumers acquire all sorts of things that they will never need or even use. Impulse purchases, seasonal

"on ice." Ours is truly a throw away society.

The result of all this financial fickleness is that large quantities of perfectly good things end up in rented storage buildings. Then death, financial hardship, or just plain apathy or forgetfulness kick in, and the items are forgotten. This is where the real opportunities for you come in. The units range in size from twenty five square feet up to several hundred. Some are even climate controlled,

and may contain freezers full of fresh meat or other perishable goods. Chances are, there is such a place near you right now, packed with all sorts of treasures waiting for you to claim them.

The first step in taking advantage of this opportunity is learning when the auctions in your area take place. Get

a copy of the local *Yellow Pages* directory and look under "storage facilities." Contact the offices. Make sure you do not call storage building dealers, the people who actually sell the little sheds you see in back yards nationwide. You want the businesses that rent their own units on their own property.

Ask for the owner or manager, and tell them you want to know when the next auction is going to be. Some places hold them on a regular basis, and can give you the exact date and time. Others hold them "as need aris-



Flea markets, newspaper ads, local radio stations, your own yard, and the internet are all great places to sell.

items, unwanted gifts—all these and more end up under lock and key for extended periods. Seniors selling a large home and moving to a smaller one realize they have tons of unwanted possessions. Singles or couples buy a new sofa, DVD player, or television and store the old one. Children grow up and leave home, and the parents hold on to their clothing, old musical instruments, books, and clothing for sentimental reasons. Businesses upgrade their computer systems frequently, and the original PCs are seen as obsolete; they are put

es,” but do not currently have one planned. Put these on a call back list, and check with them once a month or so. Still others put a notice in the newspaper when the time for the auction approaches. Learn what paper they use and watch its classifieds.

On the day of the auction, show up a few minutes before it begins, ready to do some heavy lifting. A pickup or other large truck is ideal. A van is great, but there might be some head room problems. A bigger car can work if you use a utility trailer as well. You will also need work gloves, tarps, or blankets to cover the items in case of rain, and, if possible, hand trucks and/or a partner. Of course you will also need a place to store your purchases for a while until you sell them.

Bidding at auctions

Bidding at auctions is an art form unto itself. You may wish to just watch others at the first two or three you attend, just to get a feel for how much items go for. Keep in mind that your primary goal is resale. Don't bid \$300 on a building full of goods that you can only make 50 bucks on. A good idea is to check local flea markets, yard sales, classifieds, salvage stores, E-bay, etc., to see what different items go for.

The auctioneer will open the buildings one at a time to let the bidders see what they contain. If most or all of the goods are in boxes, then he or she will break these open and display their contents to the crowd. Bring a pad and pen and try to estimate the approximate resale value of the merchandise. Then place your highest bid at no more than 50 percent of that amount. If in doubt about the profitability of the contents, then don't bid; there is always another day, and you don't want to get stuck with tons



A typical storage unit, this one yielded camping equipment, a wooden rocking chair, BBQ grill, and other treasures.

of unwanted junk filling up your storage area.

As discussed before, the variety of things you can find at these auctions is astounding. Appliances, furniture, electronics, books, clothes, toys, pet supplies, CDs, records and cassettes, VHS/DVD movies, and boxes filled with knickknacks are common finds. Cash, jewelry, gold and silver coins, even automobiles have been found. You want to look the stuff over as thoroughly as possible to make sure that rain has not leaked in and destroyed things. If you smell mildew or see evidence of water damage, then pass that building up. Mice and other rodents sometimes get in, but they rarely do much damage, except to clothing and stored food. (Speaking of clothing, check the pockets and linings of any you get. Old people hide money in them. Wads of cash have been found stuffed in shoes and mattresses). Storage buildings with shingle roofs and heavy, tight-fitting doors do the best job of preserving stored items.

Sorting, repairing

Okay, the auction is over, and you were the high bidder on one or more lots. You can usually claim your merchandise on the spot. Start going through your acquisitions immediately. You want to separate the good stuff from the absolute junk, which

you will haul to the dump. One strategy is to break open the boxes and hold up nice finds while other bidders are still milling about. Quite often they will make purchases from you right there.

Sometimes you will obtain things that need a little work. This is where a working knowledge of electronics, appliance repair, and/or wood-working comes in handy. You may locate a color television that only needs an inexpensive part to get it working again.

Lawn mowers, garden tillers, and the like are often cast aside as “broke,” when all they need is a spark plug or other minor repair. A clothes dryer may only require a new lint filter to run like new. Scuffed or dirty furniture can be cleaned and polished. Learn to see past the dust and dents to discern an item's true value. Many people have furnished their own homes this way, and saved hundreds if not thousands of dollars doing so.

Store your stuff carefully. Stack it neatly, cover it with tarps or blankets, make sure the weather will not get in, and lay out some poison in case vermin get in. Write down your inventory, noting general condition and what you think you can get for each item.

Re-selling

Now you can look at selling your goods. The venues for doing this are numerous. Newspaper ads are a good bet for larger or pricier items. People scan the classifieds every day looking for bargains. In addition, many local radio stations have weekly “swap shops,” usually on weekend mornings where you can call in, tell what you have for sale, and leave your phone number for interested parties. Call nearby broadcasters to find out about these. Sometimes television stations offer the same service.

Flea markets, also called “swap meets,” are great places to sell things.

Check your local area for them. *The Official Guide To U.S. Flea Markets* by Kitty Werner is a nationwide listing of markets. The office will rent you one or more tables to display your merchandise on; fees range from three or four dollars a day per table up to fifteen or twenty for one inside a building with climate control. Check with the manager for prices and procedures for dealers. At some markets you can just show up the day of the sale and claim your own space; others require you to pay a few days in advance. Visit the market on a sale day before you bring your goods out; make sure there is good customer flow.

Be sure and bring plenty of change, bags for the purchases (available at any grocery store; just offer them a few bucks for 40 or 50 of their sacks), a comfortable chair to sit in, and a cooler with drinks and some food. A beach umbrella can keep you cool in warm months. Bring a book or portable radio to help the time pass. Covering your tables with tarps, blankets, or heavy paper makes your display more appealing to the eye. Wide varieties of rather colorful folks both sell and buy at the markets, and you should meet some interesting people. For more information, check out *How To Make Cash Money Selling At Swap Meets, Flea Markets, Etc.* by Jordan Cooper, available from Loompanics Unlimited (www.loompanics.com).

Yard or garage sales are another way to rake in the dough. If you have a home with a good sized yard or a carport or garage, this option can work for you. Make sure you have plenty of change for your customers, as well as bags for their purchases. Advertise the upcoming sale in your local paper, put up signs in the neighborhood stating the day and address of the sale, and be outside early, ready to do business—yard sale fans are early risers. The old pros at this business set their merchandise out the

night before, and cover it with tarps, so they do not have to set up the morning of the sale.

In many rural areas and small towns, retail auctions are a favorite form of entertainment. Dealers bring truck loads of products they have bought wholesale elsewhere and put them up for bid one at a time. Forget any images you may have of rich people wearing fancy clothing and buying rare antiques or Kennedy memorabilia. These sales are frequented by working class and country folk, the same types you will see at the flea market.

You can make a hefty profit by selling at these auctions, but you need to know what you are doing. Find out when and where they are held by checking your *Yellow Pages*, local papers, or just asking around. Go several times before you decide to sell. Watch the bidders and the auctioneer. Talk to the manager and find out what the terms are; usually the house will get a portion of whatever money you make. Retail auctions can be great fun as well as lucrative.

In many parts of the country it is legal to set up an impromptu store front along the roadside, in front of abandoned stores or in the hinterlands of large parking lots. Cops will not hassle you as long as no one complains. In the south it is common to see people selling produce, clothing, decorator rugs, stuffed animals, or other goods right off the back of their trucks or out of a van. The northeastern states seem much less tolerant of this form of free enterprise, however. The rule of thumb is this: if you see others doing it without being persecuted, then you can do it too. Gas stations and convenience stores that have gone out of business are great locales. Bring your stuff and set it out for customers to see. Leave plenty of parking room, and expect many people to drive past your setup while checking out the goods.

Other venues include pawn shops, web pages, and collectors. It is amazing what people will collect. Campaign buttons, old books, walking sticks, teddy bears, shaving razors, beer mugs, and even prepaid calling cards have their enthusiasts. Read a few books on antiques and collectibles to become conversant on the subject. Internet sites like E-bay are great as well.

No matter how great a sales person you are, you will eventually end up with some goods that just will not move. You can often sell these in bulk to other dealers at a low price. Charities like the Salvation Army and Goodwill will give you a receipt for donated items that you can use to reduce your taxes.

America is a fantastic place to live, with wealth literally overflowing its containers. It is quite possible to live off the fat of the land, even in these days. Storage building auctions offer fantastic opportunities for the entrepreneur. I should know; I have been benefiting from them for years. Now you can too. Δ

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CHAPTER 5:

HOME INTRUSIONS

This is the fourth installment of Robert A. Waters' *Guns Save Lives*. The first installment appeared in the March/April 2003 issue of *BHM*. Future issues of *BHM* will contain some other chapters of Waters' book.

By Robert Waters

"In 1994, I was raped and I didn't have a weapon. I compare that with what happened this time."

— Michelle Ayres, May 24, 2000

We like to think we're safe in our own homes. But home invasions are becoming more prevalent, the robbers relying on the element of surprise and terror to subdue homeowners. In many cases, the home invaders wear SWAT team uniforms, and use police-speak to momentarily confuse their victims. The invader knows a homeowner is less likely to shoot if he or she thinks the intruder is a police officer.

Unlike home invaders, burglars prefer stealth. But many are prepared to resort to violence should they unexpectedly find someone at home.

In other cases, such as in the attempted rape of Michelle Ayres, the thug was undoubtedly stalking his victim, waiting for her husband to leave.

The taking of property by force is not new, nor is it unusual to find homeowners fighting back.

In these stories, and in thousands of other cases in my files, the property owner was able to survive the attack

of violent criminals only because he or she had a gun.

I

At 5:15 p.m., on December 26, 1998, Mary Lou Krause sat in the kitchen of her single-story brick house in Swanton, Ohio. Her husband, Jerry, was cooking dinner. "It was fish," Mary Lou remembered.

She glanced up and saw someone move past the picture window. She told her husband that a person she didn't know was at the back door.

Mary Lou walked into the bedroom and retrieved her Astra .22-caliber revolver. Then she moved back into the kitchen and stood a few feet from the door, out of sight of the man on the porch.

The food on the stove was still sizzling.

The man at the door wore a dark coat that fell to his knees. He asked Jerry for directions to the local Masonic Lodge. This wasn't unusual—the Krauses lived near a major highway and people often stopped to ask for help if their cars broke down or if they needed directions. Jerry cracked open the door and began explaining how to get to the Lodge.

In a recent interview, Mary Lou recalled, "The next thing I heard was a voice shouting, 'Let's all go inside!' This was a loud, booming voice. The next thing I seen was this arm coming through the door with a big gun." Suddenly, Jerry Krause was struggling for his very life.

A second man appeared. The two assailants began trying to force Jerry back into the kitchen. But the retired masonry foreman was having none of that. He fought back, and the battle became a give-and-take as the attackers attempted to push him inside while the homeowner used his shoulder to keep them out.

As the battle raged in the doorway, Mary Lou maneuvered herself so that she could shoot at the assailants without hitting her husband. The man with the gun saw her and simultaneously raised his own pistol to fire.

Mary Lou recalled, "I stepped out from behind the door and fired. I hit him in the arm and he immediately returned fire. His bullet grazed my hip."

The assailants panicked and ran.

"As he got back out by the gate," Mary Lou said, "he turned around and fired again. (The bullet) hit the house and ricocheted into the screen door. But by that time I had slammed the big door shut."

Mary Lou and Jerry Krause got down on the floor and crawled to the kitchen. Jerry closed the drapes to cover the big window, then retrieved his own gun. While Jerry dialed 911, Mary Lou turned off the stove and stood guard at the window.

"It happened so fast you just had to go on instinct," Mary Lou said later. "When the first man knocked on the back door, the second man went around to the front of the house and tried to open the front door which we always keep locked. When he

couldn't get in, he ran all the way back around the house and jumped on my husband's back, trying to help the first man. The two of them were trying to wrestle him through the back door."

Investigators arrived a few minutes later. They circled the house and called out the canine unit in an attempt to track down the suspects.

"The sheriff's department did an excellent job," Mary Lou recalled.

An ambulance transported her to the hospital where her flesh wound was treated and bandaged. She then returned home.

The next afternoon, a man with a gunshot wound appeared at a Toledo hospital. He was arrested and charged with aggravated assault and attempted first degree murder. Christopher Mathews, the gunman, had been hit in the right shoulder. He later plea-bargained his sentence to five years in prison. With good behavior, he could be out in less than two.

Mary Lou states that she's incensed by the lenient sentence. "He tried to kill us," she said. "Another half-inch and I'd have been dead."

She credits a plan that she and her husband devised with saving their lives.

She said, "We're almost seventy-years-old, our house is semi-isolated, so we have to take care of ourselves. The best way I know to do that is to have a gun and know how to use it.

"People need to have a self-protection plan. If I only save one life, it'll be worth it. When people knock on the door, I look out the picture window. If I know them, I let them in. If I don't know them, I get my gun and stand behind the door so they can't see me, and I let my husband talk to them. I'm ready if I'm needed.

"One day a woman came and asked to use the telephone. She never knew that while I was sitting there I had my gun under the newspaper. You can't be too careful.

"A handgun is a necessity for everybody. I wouldn't feel safe without one. The government shouldn't ban handguns."

Sheriff Jim Telb called Mary Lou Krause's actions heroic. "She was protecting her home," he said. "She was absolutely correct in defending herself and her husband."

Mary Lou has made only one change in her plan. Now, instead of a .22-caliber pistol, she has a .38 Special. "It makes bigger holes," she said.

II

On the morning of June 4, 1998, Michael Merz was in the upstairs office of his Boca Raton, Florida home when he heard a thump at the front door. Merz lived in the upscale Isles of Palms subdivision, and had been at work on his computer.

At first, he thought the noise was made by a UPS deliveryman dropping off a package. Then he heard a loud crash. He suddenly realized that someone was trying to break in.

Merz, who owns several firearms, had recently moved them downstairs so he could clean them. In a recent interview, he said, "When I knew someone was breaking in, I walked down the hall to the bedroom. I began going through the chest of drawers looking for a gun, because I thought I might have left one up there."

The homeowner's adrenaline was pumping, but he managed to remain quiet as he searched for one of his guns. When he couldn't find one, he began to walk downstairs.

"I didn't think the guy was in the house at that point," Merz said. "I thought, I've got time to go downstairs and get my gun from the kitchen. It was a Sig-Sauer P230 .380-caliber."

As Merz started down the stairs, he saw the intruder coming out of the downstairs bedroom holding a cordless telephone. Both men looked at

each other in surprise. Then the intruder bolted for the front door.

Merz didn't hesitate. He dove off the stairs and tackled the man. They fell into the kitchen, then wrestled into the garage. In the violent struggle, two of Merz's motorcycles were knocked to the floor.

Merz recalled, "In the few minutes that I was looking for the gun, he had already staked out the downstairs. He had unlocked the door leading into the garage so that he had another means of escape and had already put my car keys in his pocket. What he was going to do was load my car up and leave with as much as he could steal."

Now the struggle became desperate. As they rolled across the floor, the intruder grabbed Merz by the throat. The homeowner slipped the hold, and landed on top of the intruder. "He was almost as big as me, so I couldn't manhandle him," Merz recalled. "But I could sort of dictate which way the fight went."

Merz wanted to get the intruder back into the house so he couldn't escape. Capture him, thought Merz. This man needed to be in jail. He was obviously an experienced burglar, and maybe more than just a burglar.

As they fought back into the kitchen, Merz remembered the gun he'd hidden in the cupboard above the stove. At this time, however, he was unable to get to it. The two men fought back into the living room. At one point, Merz was on his back, and the intruder had one hand around his throat while he balanced the other hand on the floor. This gave Merz the opportunity to get both hands around the throat of the intruder.

"I was squeezing with everything I had," Merz said. "We fought back into the kitchen. By this time I'd had my hands around his throat for a long time and we were both pretty exhausted. I knew it was going to take a few minutes for him to recu-

perate, so I jumped up and grabbed my gun."

Merz leveled the barrel between the man's eyes. "His eyes got big as saucers," Merz said. "He went from being aggressive and violent to completely submissive. He couldn't have been more cooperative. He wouldn't even look at me. He just looked down."

The homeowner reached for the telephone and dialed 911 while still holding his gun on the burglar. When he told the dispatcher he'd captured a burglar in his home, she told Merz to order the man to put his hands on the back of his head.

Merz went her one better. "Lay face-down and put your hands behind your back!" he ordered. The man quickly complied.

The operator asked Merz to find out the name of the intruder. The homeowner reached into the man's back pocket and retrieved a billfold. It was obviously stolen. The driver's license photograph was that of a middle-aged man—the intruder was in his early twenties.

"What's your name?"

The intruder was so frightened of the gun that he told the truth. "Michael Ratliff," he said. After a few moments, the dispatcher informed Merz that the man had two warrants out for his arrest.

Police quickly arrived. While searching the burglar, they found a knife in his pocket. This allowed them to charge him with armed burglary. Ratliff's long arrest record consisted of convictions for burglary, drug possession, grand theft, assault, and trafficking in stolen property. A few minutes before breaking into Merz's house, he had attempted to break into the home of a woman who lived in the same neighborhood.

Ratliff was eventually sentenced to four-and-a-half years in prison. The sentence was mandatory, and there is no chance of parole.

Merz, who had used a handgun to frighten away a burglar several years before, feels that the Second Amendment gives individual citizens the right to own firearms. "To me it's mind-boggling that people would want to take guns from law-abiding citizens."

III

Ninety-one-year-old Sebron Mitchell had outlived his wife, children, and most of his friends. The former chef lived alone, subsisting on Social Security and a small pension. His house, in what he referred to as a "rough" section of Augusta, Georgia, was a four-room, clapboard shack. "It may not be much," he always said with a smile. "But it's home."

On three previous occasions, his house had been burglarized. So Mitchell bought a gun for protection, an H&R .32-caliber revolver.

A few minutes before midnight, on February 4, 1999, Mitchell was about to go to bed. Suddenly, there was a thundering crash at his back door. Then he heard footsteps rushing toward him.

"It was a few moments of sheer terror," he later recalled. "The man literally tore the door down. The door just fell apart."

It looked to Mitchell like the scene out of some old black and white B-grade movie. When the door plunged down, clouds of dust, thick as smoke, poured into the room. A stranger appeared out of the dust, brandishing a hunting knife.

Mitchell had no time to react. The intruder rushed the homeowner. He grabbed Mitchell and began choking him. The former chef couldn't breathe. He tried to struggle but was no match against the younger man.

"I need money!" the man said.

"I'll give you money," Mitchell croaked.

It was like the assailant never heard him. As he continued to choke Mitchell, the intruder pressed the

knife against the homeowner's side. The blade drew blood.

"You wanna die, old man?"

Mitchell wanted to respond, but his assailant had cut off the air from his windpipe.

Suddenly, the intruder released his hold. Mitchell gasped for air. "I'll give you money," he repeated.

Again the man ignored Mitchell's offer. He again tightened his grip on the homeowner's throat, this time applying excruciating pressure. The attacker leveraged his body so that the homeowner fell. Mitchell's leg kicked a rickety table, knocking it to the floor. A glass on the table shattered. The intruder fell on top of Mitchell, choking him and continuing to keep the knife pressed against his side. By now, blood had soaked the homeowner's shirt.

Mitchell couldn't breathe. He knew he was going to die. At least, he thought, I've lived a full life. If I die now, I'll go to a better place. A strong Christian, he thought of his friends at the Mt. Zion Missionary Baptist church he attended.

Again, the man released Mitchell. This time he stood up. Looking down at the homeowner, he screamed, "Man, I need some cash!"

Mitchell tried to speak, but his voice-box wouldn't work.

"Gimme money, old man!" the intruder said, lacing his commands with violent obscenities. "You better gimme some cash!"

For the first time, Mitchell looked into his assailant's eyes. What he saw frightened him—the lost, spaced-out eyes of a drug addict. The former chef had seen it before. One of the restaurants he'd worked for in Augusta had hired several probationers as cooks—one of them was a "dope fiend," as Mitchell recalled. His eyes had the same look as the intruder's.

The homeowner finally regained his voice. "Quit choking me and let's go find some money," he said.

Mitchell pulled himself up and led the intruder into the kitchen. After the last burglary of his home, he'd stashed his gun there. Now he was determined to get to it.

In the kitchen, he pointed to a drawer that contained several dollars in rolled coins, change that Mitchell allowed to accumulate until he could take it to the bank to cash in for bills.

The intruder pulled open the drawer. The weight of the coins caused the drawer to fall to the floor. Several of the rolls burst, spilling pennies, dimes, nickels, and quarters all over the floor. Mitchell's assailant seemed mesmerized by the hundreds of coins. He fell to his knees and began trying to replace the coins in the torn rolls.

This gave Mitchell the opportunity he needed. He opened a drawer, pulled his pistol, and pointed it at the intruder. "Everybody had told me if they break in my house again, then shoot to kill," he recalled. "Well, I did. That dope fiend took one bullet but he didn't take a penny of my money."

Mitchell aimed his revolver at the assailant and fired twice.

He watched the intruder fall. Blood pooled on the floor around the man, and he began to crawl away. Mitchell held the gun on him.

"Stop!"

But the man ignored him. The intruder jumped up, ran through the house, and scampered out the back door.

Mitchell breathed a sigh of relief, then picked up the telephone and called police.

Sergeant Greg Smith responded to the call. He found Willie James Hall lying on the ground outside Mitchell's house. The robber was in obvious pain, and stammered that he'd been shot. Smith examined the man and discovered that one of Mitchell's bullets had hit the assailant in the right leg. A deputy administered first aid.

While waiting for paramedics to respond, Smith called in Hall's name for a background check. The results didn't surprise the officer. Hall's rap sheet listed more than 20 years of arrests in Georgia.

The crack addict was taken to the Medical College of Georgia Hospital and treated. Later, he was released to the custody of the police and placed in jail.

Hall was convicted on charges of burglary, criminal attempt at armed robbery, and possession of a knife during the commission of a crime.

A shaken Mitchell told police, "It just wasn't my time to die."

IV

On May 1, 2000, Michelle Ayres was fast asleep. It was 1:00 a.m. in the peaceful community known as The Colony, Texas, a town near Plano.

"I heard a thump out in the living room," Ayres recalled. "My daughter sleeps out there."

Her year-old twin sons slept in an adjoining bedroom.

Ayres, who had been awake for almost 48 hours taking care of her sick children, figured her two-year-old daughter had brushed against the wall, and would call for her mother if she needed anything. When the toddler didn't call, she drifted back to sleep.

The housewife recalled, "I suddenly woke up to this excruciating pain in my face and my ribs. A man was on me, his legs straddling me, and he was beating me in the face and the ribs."

Pinned beneath the weight of a two-hundred-pound assailant, the shock of the attack momentarily paralyzed her. Then Ayres thought of her children. She began to struggle against the man.

He growled, "Gimme what I want and I'll stop hitting you." Memories of having once been raped came to

her. This only made Ayres more determined to fight.

In the pitch darkness, the struggle seemed to go on forever. The more she resisted, the more he punched her.

"Lay still, bitch, or I'll kill you!"

Ayres thought of her husband, Chris. He was working, but she knew he always kept a loaded pistol beneath his pillow for protection. She determined to try to get to it.

The housewife pushed against her assailant and caught another punch to the ribs. It took her breath away. Then she felt her nose explode. She knew the intruder had broken it.

With her left hand, Ayres reached beneath her husband's pillow. At first she couldn't find the gun. She nearly panicked. Her only source of staying alive was so close, yet so far away.

Then the desperate mother lunged toward the weapon and suddenly felt the cold steel on her fingers. Ayres pulled it out, a .45-caliber Colt MkIV Series 80 semiautomatic pistol. She was familiar with the gun. Before they'd had children, Chris had taken her to the shooting range many times.

She recalled, "I believe (the intruder) felt me reaching for the gun, because all of a sudden he grabbed my wrist. He held it really tight and I almost dropped the gun. That's pretty scary. The safety was on, but I was able to release it with my thumb."

With a twisting motion, Ayres freed her wrist from the assailant's grip. Swinging the gun toward him, she squeezed the trigger. Ayres heard the explosion and saw the muzzle flash.

"A few seconds later," she recalled, "I felt the bed move. Then he was gone. I have a cordless phone next to me, and I picked it up and dialed 9-1-1."

The police arrived and called for an ambulance. Ayres's fractured nose was gushing blood. Her lip was split, her eyes were blackened, and her ribs bruised. Ayres said, "The nightgown I was wearing was all torn up. The

bedsheet was a bloody mess, as well as my pillow."

Police called Chris at work. The concerned husband raced to the hospital to be with his wife. While it was comforting to know that his firearm had saved her life, one look at Michelle tore her husband apart. Chris later stated that if he could have gotten his hands on her attacker, he would have killed him.

Investigators determined that a window near the back door had been broken, and the intruder reached through it to unlock the deadbolt and the door knob. He then ransacked the kitchen, finding Ayres's billfold.

She later recalled, "My wallet was open on the counter and he had taken my credit cards and insurance papers. The kitchen drawers were open. In the living room, my CDs were scattered everywhere, and my stereo was knocked over. The police think he wore gloves, because there were smudges all over the house. But there were no fingerprints."

Investigators believe the assailant was watching Michelle before he broke in, possibly stalking her from a distance. He knew when her husband left work, and he had watched the lights go out when she went to bed.

Police could not determine if the intruder was hit. The 230-grain Hydra-shok jacketed hollow-point bullet that Ayres fired struck the Master bathroom door jamb and ricocheted along a wall before coming to rest.

Investigators tested the bloody sheets and other items in the house, but, as of this writing, the assailant hasn't been caught.

"Police have told me off the record," Ayres said, "that if I hadn't had my husband's gun, I probably would have been murdered, and my children may have been killed, too."

"I'm against gun control because if you put a gun on a table and don't touch it, it's not going to get up by itself and shoot someone."

"When I woke up and this man was punching me, I was extremely scared, but I made up my mind I was not going to be a victim again. Then I thought about my children, and I got angry."

Ayres paused for a moment, then continued. Pain welled up inside her, and tears formed in her eyes.

"In 1994," she said, "I was raped. I didn't have a weapon, and I compare that with what happened this time. I feel a lot safer with a gun."

Michelle Ayres now has her own pistol. It rests beneath her pillow. Δ

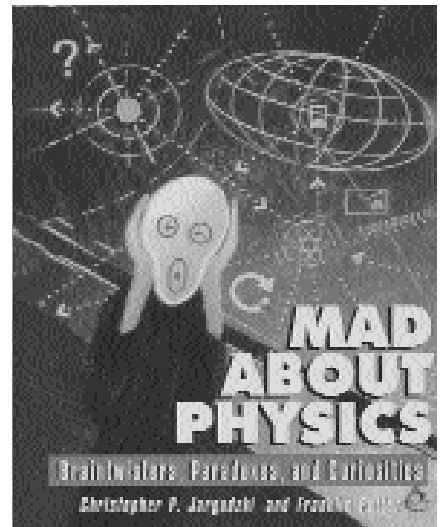
Book review

Mad About Physics

Among the most difficult things for homeschooling parents to find are good books for homeschooling their children in physics. The books available are either too dry, confusing, or beyond the reach of the parents who are trying to help. To learn the subject you must learn how to *think* about it. It's a feat most people go through life without mastering.

So I was bowled over when I saw this book. This isn't a text and it isn't a book you try to go through in a week or a month. But it will complement any text, and it's one you can go through at your leisure (with 397 puzzles, even at one a day the book will last more than a year) while you are learning quite a bit about the subject.

The puzzles cover many aspects of physics including energy, motion, strength of materials, astronomy, light, electricity, magnetism, etc., and the examples provided often draw on everyday experiences (Why do hamburgers cooked slowly cook faster than those cooked over high heat? Why do the sun and moon look larger when they're near the horizon than they do when they're directly over-



head?). Other times it provides easy-to-visualize examples to teach its lessons.

A few of the puzzles require some math, but the overwhelming majority use only simple logic and an understanding of science. And if you don't have that understanding yet, you'll begin to acquire it as you go along.

I expected most of the puzzles to be easy for me, even though I've been away from basic science for years. And though I did find myself readily answering some, I was surprised to find others I couldn't figure out. However, when I read the answers, I thought, "I should have known how to solve that one." With those puzzles I was relearning what I'd forgotten. But there are others that just plain stumped me and, when I looked up the answers, they surprised me. But, now that I understand those answers, I won't forget them and they have made my understanding of basic physics deeper and clearer.

This is the best book I've ever seen for teaching future scientists how to think about physics. It is also suitable for students who don't plan on going into the hard sciences but should have an understanding of what science is and how to think about it.

Mad About Physics, Christopher P. Jargodzki & Franklin Potter, 304 pages, John Wiley & Sons, Inc., paperback, \$16.95. — **John Silveira**

Living the outlaw life:

Credit card monte: Finance flim-flam and how to foil it *by Claire Wolfe*

It was the strangest thing. Month after month, I charged nothing on my credit card. Month after month, I paid nearly double the minimum payment. I was such a good girl. Yet each month, my balance didn't drop as much as I thought it should.

Maybe I wasn't really such a good girl, after all. I spent way too long muttering, "Hm, isn't that funny?" (and then forgetting about it) before I finally examined the statements. And there it was—one big subtotal relentlessly going up-up-up \$30-something each month, despite all my efforts to bring it down-down-down. No, it wasn't a mistake. Belatedly, I'd discovered a fine example of typical credit card policies—aka, financial flim-flam.

I'll tell you in a moment what was going on; it's something that may be happening to you right now. I'll also share some other tricks you can expect from your helpful, friendly banker.

First, though, let me take a second to explain where I'm coming from. I don't use credit cards these days, though I did for many years. I distrust big corporations, but rejoice in free enterprise. I believe the best form of "consumer protection" is generally to read the fine print, and not to blame business people or scream for new laws when our own carelessness gets us into trouble. I know that independent people like the readers of *Backwoods Home* often have to do a balancing act between stubborn self-sufficiency and using credit to help them achieve their backwoods dreams.

That said, however, the bald-faced fact is that credit card issuers, compared with nearly all other businesses, are skunks of the stinkiest order. They have less respect for

their customers than carnies do for marks. Their morality is right down there with that of a hooker lifting the wallet of a drunken john.

Credit card issuers operate like pickpockets. They create a complex screen of misdirection so you won't know how neatly they've set you up to lose.

They're like the slimy character who sweet talks the girl into bed—and then doesn't respect her in the morning, because he never respected her in the first place. She was never more to him than something to...

Ahem.

In short, credit card issuers are scum. But they're attractive scum. They lure us with the prospect of "free" goods and services (after all, you only have to worry about the payment later).

They encourage our lust for every gorgeous thing. They're our companions in every indulgence, every wild whim.

And sometimes they're useful.

Unless you've dropped out of the world of banking and credit altogether, you probably have a credit card in your wallet. If you ever need to rent a car or a trailer, make a purchase over the Internet, get your truck repaired while stranded in a strange town, or tide your family over during a time of illness or unemployment, chances are you'll use that credit card and be glad you have it. Cards offer benefits for those who use them properly. And when you're financially desperate, that little piece of plastic can look like your best friend.

So most people won't want to avoid credit cards. But we should keep open eyes and a tight hand on our wallets, given the tactics and (lack of) ethics in the credit card industry.



Speaking of ethics, let's take a close look at that letter you've just received from the nice folks at the First Bank of Mordor.

"You have been pre-approved for a credit card with a rate starting as low as 2.9 percent!" You've seen this statement on countless envelopes. Let's take it apart. "You have been pre-approved." Nonsense. You have not. That's just a lie to encourage you to send back the application. (Try sending it back without your social security number on it and find out how "approved" you actually are.) Now look at the phrase "a rate starting." "Starting" is the operative word. For three, four, or five months, you may indeed pay a low interest rate on purchases you make with the card. Then whammo!—the cost of those already-purchased goodies becomes an immovable lump of lead. Suddenly, your purchases are accruing finance charges at a much, much higher annual percentage rate (APR).

Finally, we come to the famous phrase, "as low as." This phrase means that the 2.9 percent "promise" on the envelope may not actually apply to you at all—even for the first friendly months. Read the fine print and you'll see that the actual rate you have to pay may be two, three, or more times higher than the one on the envelope. It depends on your credit history. Fine. But the really bad thing is, you won't know your rate until the card is in your hands.

Can you spell BAIT-AND-SWITCH?

"Transfer your existing credit card balances to our Titanium Card and pay just 5.9 percent interest!" Boy, this one can be tempting. But don't bite that apple. There are two tricks in this short statement. Let's say you're now paying an 11.99 percent interest rate for \$1,000 worth of purchases. Cutting that rate in half sounds great. Only thing is, exactly as we saw above, a few months after you transfer that \$1,000 balance, the introductory offer runs out—and suddenly your rate goes up. That's zinger number one. But you can usually discover that one easily by reading the fine print.

Zinger number two is harder. Credit cards commonly carry two separate interest rates—a low one for purchases, a much higher one (which can be double or more) for so-called "cash advances." Well, guess what? When you transferred the purchase balance from your old card, it became a cash advance balance on your shiny new card! And now instead of the 11.99 percent you were happy to get rid of, you're paying 18.99, or even 22.99 percent on those same purchases.

"Use these free 'convenience checks' and pay only 3.9 percent until March!" Every few months, your credit card company sends you "free" checks and offers some incentive to use them. Here's what they don't tell you—at least not in print that can be detected without an electron microscope: Everything you put on those checks is a cash advance. Buy a sweater? It's "cash," not a purchase. Pay

your electric bill? It's "cash." Purchase a pizza? That pizza is a "cash advance," too. Once the low promotional rate runs out...zing! You pay the maximum finance charge your account can bear. You may also have to pay cash-advance fees, which can be in the vicinity of \$10 per transaction. That makes for a pretty expensive pizza. And one more catch; unlike purchases, which usually have a grace period, cash advances begin accruing interest from the moment you make them.

In most cases, only someone desperately broke or ignorant would use a "convenience check." And that's exactly what the card issuer is hoping you'll be. Nice attitude, eh?

"We have updated your agreement." When you apply for a card, you're presumed to be making an agreement with the card issuer to meet specified terms. Okay. The only thing is, this "agreement" is a lot like the one you have with the IRS. The bank can change the rules any time it wants. And you can't. If you don't like the new terms, your only recourse is to cut up your card immediately, without ever using it again (that's important), and send a written notice closing the account. Nothing so one-sided deserves to be called an "agreement." But to this point, you really did agree.

Once again, though, the sheer imbalance of power isn't the worst part. Your friendly banker manipulates the fine print in ways that are designed to buffalo you. Multiple, seemingly innocuous, changes over a period of months can add up to one zinger. You have no way to connect the dots unless you're not only reading, but compiling and studying, all the related changes to the fine print. And we're talking some big zingers, too. Like a multi-step change in late-fee policies that causes your interest rate to jump from 10.99 percent to 23.99 percent when the post office loses your next payment.

And if you call the card issuer's 1-800 number to protest, the representative will blandly inform you that you "agreed" to such punishment—simply because you didn't close the account after they changed the fine print on you.

Finance-charge folly. The nominal interest rate on any loan understates the total finance charges you pay in the long run. That isn't deception. It's just mathematics, a function of compounding.

Nevertheless, the cost of running up credit cards is much higher than the lenders want us to know. Mafia accountant Nuncio "Numbers" Goldberg demonstrated that fact in his article "Four-Card Monte: How banks are charging 80% interest."* Numbers was generous enough to let me borrow both his figures and part of his title for this article. Here's Numbers' tally of a \$20,000 cash balance on a credit card

* The article can be found at <http://www.notruth.com/content/hcred-it0002.htm>. This is a humor site, "The World Association of Liars, Thieves, Slavers, and Murderers." But there's nothing funny about the figures—or about the other credit-card tricks that faux Mafia accountant "Numbers" Goldberg describes.

Table 1: Month 1

	Fixed loan	Cash advance on credit card
Rate	10.00%	19.99%
Amount borrowed	\$20,000	\$20,000
Payment	\$424.94	\$400.00
<i>Note: the loan payment is fixed by agreement; the credit-card payment is calculated at a standard 2% of the balance.</i>		
Interest paid, month 1	\$166.67	\$332.98
Principal paid, month 1	\$258.27	\$67.02
Interest as a % of payment	39.20%	83.20%

compared with a \$20,000 fixed-rate loan from a bank. Table 1 shows where things stand after payment #1. But compare it to the situation at month 58, in Table 2, when the fixed loan is nearly paid off.

The fixed loan takes five years to pay off, and the interest averages 21.6 percent of your payments. The credit card cash advance takes 90.5 years to pay off and interest averages 80.3 percent of payments. Your total payback amount is...well, why bother to tally it? You're not going to live that long.

All this scarcely begins to touch on the various fees and finagles that arrive with your credit card—fees becoming steeper and finagles becoming more complex by the year.

Credit card companies claim that these ploys for sneakily squeezing money out of customers are a necessity. Ever since the dot-com bomb and 9-11 tanked the economy, they're losing their shirts. Or so they loudly wail. But they've brought the worst of their trouble on themselves. During the booming 1990s, card issuers "went bottom fishing for new customers" (as one industry watcher charmingly put it). They began aggressively promoting credit cards to folks who previously didn't qualify for them. At that time, credit cards were far and away the most profitable segment of the banking industry, and every lender wanted in. Now, losses in the so-called "sub-prime" credit card market (the "bottom fishing" market) have risen from 5 percent to nearly 20 percent. Some issuers have gone out of business and others are scrambling to stay alive.

Well, pardon us for not weeping for the poor, abused lenders. Look at the tactics described above. These companies are trolling for exactly the kind of customers they're attracting. Approach a prospect with the intent to deceive and manipulate, and you really can't be shocked—simply shocked!—if your customer turns out to be so dumb, so crooked, or so fed up with you that he doesn't pay his bills.

Table 2: Month 58

	Fixed loan	Cash advance on credit card
Rate	10.00%	19.99%
Amount borrowed	\$20,000	\$20,000
Payment	\$424.94	\$330.35
Interest paid, month 58	\$10.45	\$275.00
Principal paid, month 58	\$414.49	\$55.35
Interest as a % of payment	2.50%	83.20%

Yes, we can indeed "read the fine print." That's a fine idea. And it's nice to have the convenience and security of a credit card. Nevertheless, when dealing with such bounders and cads, you need what you might call "plastic explosives" to defend yourself.

For instance:

1. **Avoid credit cards if possible.** Deal in cash, or if you have a bank account, get a debit card and use that instead. See my article "Bye Bye Banking" in the January 2002 Web issue of *Backwoods Home* for more on living without banking. Of course, that's not practical for everybody or every transaction (like renting a car). So ...

2. **Get a secured credit card.** Many banks offer cards that require you to put up a deposit. To get a credit line of \$1,500, you might put up \$1,000, which the bank holds as security. Millions of people go this route to establish credit or rebuild damaged credit. It can also be useful if you don't like credit but want to have a card for emergency use.

3. **Get an American Express card.** Businesses treat it like a credit card, but you're required to pay the full balance each month. Thus you avoid credit blues and many credit temptations. (Just don't sign up for their extended payments option.) The downside—as you've heard in competitors' commercials—is that the American Express card isn't accepted everywhere. No...wait a minute. That's a point in its favor.

4. **Be a math whiz or make friends with one.** When you're contemplating credit, a quick glance at annual fees vs. annual percentage rates doesn't begin to tell you which card will be least painful to own. Here's an example. At the Credit Card Guide (<http://www.creditcardguide.org/>), you'll find a table that shows finance charges for four sample credit cards. Each card has APR of 18 percent and its holder carries an identical small balance of around \$300. But the monthly finance charge ranges from \$1.50 to \$7.50—solely because of different ways the card issuer calculates the balance. Now think about how that affects your wallet if your balance is \$3,000. Or \$30,000. Visit Web sites like the Credit Card Guide and learn in serious detail the terms and terminology of credit.

5. Be careful when you use dual-rate cards to make purchases. If the card you use has a higher finance charge for cash advances, and if you have any remaining cash-advance balance on your statement, don't—ever, ever, never!—use that card to make purchases. Banks will pay the least profitable (for them) items down first. And meanwhile, the finance charges will keep growing—and compounding—atop the cash-advance. (This is what happened to me in the incident I described at the top of this article. I had made a single cash purchase months earlier. Until it was paid off, that lone, forgotten purchase prevented my cash-advance balance from ever going down, no matter how much I paid each month.)

6. Make a payment every two weeks instead of once a month. Take a look at the current minimum payment on your card. Split it in two. Instead of sending it as one payment, send half of it now and half of it two weeks from today. (Make sure both halves arrive before the due date so you don't incur late charges.) Then keep paying the same amount every two weeks, no matter how low your minimum payment drops. The math is complicated, but the effect is simple; your balance will go down as fast as possible—assuming you don't run it back up again.

7. **Call the bank's 1-800 number and ask for a rate reduction.** You can't lose. According to the consumer-rights project, The Truth About Credit, 56 percent who call come away with a reduced rate. (This may not work if

you've recently been hit with punitive finance charges. In that case, they'll make you wait and sweat.)

8. Don't use your credit card for anything your bank might consider a "quasi-cash" transaction. These include lottery tickets and betting chips at a casino. And of course those "convenience checks" your bank keeps shoving at you. You'll be charged the cash-advance rate, even if you think you're making a purchase.

9. Don't get too excited about cards with no annual fee. They almost always carry higher finance rates than cards that charge a yearly fee. Usually, they'll benefit you only if you religiously pay off your entire balance every month.

10. If you can't avoid temptation... Call 1-888-5-OPTOUT (1-888-567-8688). Assuming you have the patience to get past the frequent busy signal, you can use this number to tell all three of the big credit-reporting agencies that you don't want solicitations from credit card companies. Also, fill out your bank's opt-out form to keep them from selling information on you to other vendors.

11. Don't feel you need to be honorable to those who treat you dishonorably. You may go on paying punitive rates because you don't want to ruin your credit. But don't feel you have to do it because it's the "right" thing to do. There may be honor among thieves. But there is none between credit card vendors and their marks. Δ

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Ask Jackie

Chokecherries, chicken runs, keeping lard, canning potatoes, “moving out,” root cellaring potatoes, fried dry pea patties, canning chicken on the bone, pressure canning on electric stoves, canning milk, short season planting tips, canning eggplant, mush, & tomato preserves

Is there anything suitable to substitute for chokecherries? They are hard to find commercially, but I would like to try some recipes. What would you recommend for a substitute?

**Kay Olson
Mankato, MN**

There really isn't a decent substitute for chokecherries in many recipes. A neat idea would be to go up north on a weekend in the fall, and pick some wild ones. We used to live up out of Sturgeon Lake, and the wooded back roads all over the north are good places to find these glistening black beauties.

Jackie

I keep my four laying hens in a fenced in area. It is about a 100-square foot-space. Besides regular raking and general cleaning, is there more I should do to maintain their run, considering the amount of time they spend there?

**Greg Scully
scully4@mtaonline.net**

Most chickens don't even get so large a run, or any cleaning or raking of their run, so yours are way ahead of most. However, I like to have more

than one yard so that they can be alternated. Then you can change the hens to a new yard, till, and plant the old run. This works fertilizer from the chickens into the soil and prevents intestinal parasites from becoming a problem in your birds. It also loosens the chicken-tromped soil. After tilling an old yard, you can either plant it with a chicken crop, such as rye grass or rape (canola) for them to harvest later on, or you can use it as a garden spot for yourself as that chicken manure is great stuff for corn, cabbage family crops, and beans. I wouldn't plant potatoes (overly fertile soil causes scab), tomatoes, or peppers (too much fertilizer will cause them to run to huge plants, but little fruit).

Jackie

I really enjoy your articles and am awed by the amount of canning you manage to do. I'm interested in starting to use lard more and get rid of hydrogenated and other processed oils and have been reading about the benefits of using lard. I would like to render my own and am mainly wondering about storing it.

I've read from many sources that it keeps well in a cool dark place, but



Jackie Clay

what I need to know are some better specifics, like about how long will it keep and how cool? And last, how will I know it's gone bad? Smell? Color?

Also, If you happen to have any expertise on rendering lard, I'd love to know some tips on it.

**Mary
mary@jsteng.com**

When the bulk of my children (between five and eight kiddos) were home, we always butchered two hogs in the fall to help provide not only our meat, but also lard for cooking. To us, lard is more flavorful than shortening and gives the food a special taste that is lacking in food cooked with oil or shortening. I simply kept my lard in covered two-gallon crocks in the basement (cool and dark). When I needed to fill my smaller two-quart crock in the kitchen, I just went down and scooped out enough from the larger crocks. This lard kept very well until we butchered again in the late fall. (Of course, very little was left.)

As the family grew older and my children left home to begin their own families, we butchered only one hog and the lard kept much longer, as I

cooked and baked less, of course. So to keep the lard fresh longer, I filled sterile wide-mouthed canning jars with hot lard, right from rendering, then made absolutely sure the rim of the jar was clean and free of grease, placed a hot, previously boiled lid on the jars, screwed the ring down firmly tight and set the jars aside on a dry towel until they were cool.

In this way, the jars are sealed and the lard will keep fresh much longer. In unsealed crocks, "old" lard will eventually become rancid. You can tell by the smell. It won't kill you, but no one will want to eat your cooking.

How cool? Fifty or fifty-five is fine. Cooler is better. The cooler you keep the lard, the longer it usually lasts. I've had two-year-old lard in crocks in the basement that was fine. In sealed canning jars, it seems to keep nearly forever.

If you have a freezer, you can also freeze lard with good results. Just be sure it is in airtight containers so it will not "freezer burn," which also imparts a nasty taste.

Lard is easy to render. Just cut up chunks of pure pork fat; no meat, bone, or skin. Place them in a heavy pot and turn the heat on low. Plan on staying near the pot. Hot lard is dangerous, especially to children and pets who might get curious. As the fat melts, stir it occasionally, then skim off any browning bits. These are cracklin's and are a tasty treat. We like them crumbled up in corn bread. They are very rich, so you won't want to gobble up a handful.

I've rendered smaller batches of lard by simply placing chunks of fat in my turkey roaster, and putting it in the oven at 225° F until the lard is melted. Skim off the cracklin's and you're ready to strain your lard.

When the fat is all melted and the cracklin's taken off, strain the liquid lard through several thicknesses of cheesecloth into the crock or jar you will be storing the lard in. For smaller batches, you may carefully pour the

hot liquid lard; dip the lard for larger batches, keeping the pot very warm. Partially solidified lard will not strain well. You want to get out all the small brown bits on the bottom of the kettle for the best appearance and flavor.

Jackie

We can't wait to try your home canned bologna. But it would be nice to have a recipe for canned potatoes to go with it.

**Lanney and Laurie Lavoy
Bredenbury, Saskatchewan**

I can potatoes almost every year. Mostly because a few jars of them come in so handy, from time to time. I can whole, smaller potatoes and those little guys that I just can't throw away at harvest time. The whole tiny potatoes, the size of your thumb, I can scrubbed, with the skins on. When you get ready to use them, you can either use them with the skins on, or simply squeeze them like a grape, and they will pop out of them, leaving a perfect whole potato.

Potatoes are very simple to can. But I've learned to can them in pint jars, for the reason that if you can them in quart or larger (potatoes only, not stews or mixes), the potatoes will become mushy. They get overcooked, due to the longer time you must process quart or larger jars. Pints can be processed quicker, thus are cooked for a shorter time.

Here's how to can potatoes: Wash and sort potatoes, rejecting any with rotten spots, damage, or scars. Peel larger potatoes, cutting into convenient chunks. I leave the smaller ones whole, with the skins on, but scrub them well. Boil for 10 minutes, then pack hot in pint canning jars. Wide mouth works best. Fill to within one inch of the top, then pour boiling water in to fill within 1 inch of top of jar. Add ½ tsp. salt, if desired. Remove any air bubbles by running a wooden spoon handle down next to the potatoes. Wipe the rim of the jar

clean, then place a hot, previously boiled lid on jar and screw down the lid firmly tight. Process pints 35 minutes in a pressure canner. You **must** use a pressure canner when canning any vegetables or meat.

These potatoes may be used later in potato salad, in stews, soups, potato casseroles, etc. And, because they are already cooked, they make handy, speedy, satisfying meals.

Jackie

I have 40 acres paid for (Yes!) that is 40 miles east of where I work. The problem is, I am self-employed, dependent on people (they are my patients) and even though I am further south than NW MT, it does get snowy/icy here.

There is a small town between the land and where I work and I have thought about buying a fixer-upper house there as it would be possible to get to work in 30 minutes from there, and I could be out at the land in about 20 minutes on the weekends for building some kind of alternative home.

Of course I am single. Please give me some advice and or a pep talk! I have a very bad neck, with 3 bulging discs, so heavy lifting is out of the question for me. Am able to do almost anything else if I don't overdo it.

Julia

drjrader@nwaisp.com

Having 40 acres, debt free is a major accomplishment. Congratulations! I can't advise you on whether or not to buy the half-way fixer-upper house. I can only tell you what I would do under the same situation. Personally, I would get out on the land as soon as you can. I realize that a 50 minute or so commute is a long one. Many of my friends here drive as far each day to work. And, as you said, roads do get icy and snow covered at times. If you bought the house, you would be saving 20 minutes each day in driving. *But your*

trade off would be putting your extra cash and energy into the new house, not your homestead.

It's hard during the winter, as you will leave for work in the dark and get home in the dark for several weeks. But there are many more months where you will have several hours after you get home each day to work (or just plan and *enjoy*) your new homestead.

What can you do in only an hour? Well, let's take a look at my day, today. In an hour's time... and I did not kill myself, either... I planted a young cherry tree, changed the nest box straw in the chicken coop, planted a pound of onion sets and four rows of peas while watching a gorgeous wild turkey tom strutting down in our valley. I saw the first tiny sprouts of new grass and alfalfa prickle the worked earth of our renovated horse pasture, heard two bluebirds singing, and smelled the fresh garden earth, newly mowed lawn, and apple blossoms. All in one hour. Now multiply that by five days a week, add the weekend, and rest on the Sabbath. I think it comes out to a whole lot, don't you?

And in four hours, you could frame in a chicken coop or your first cabin's one wall.

At "over the half-century mark," I am well acquainted with having to work around bad body parts. But with practice, you develop ways to do just that. There's no way I can lift a 400-pound log up on a wall. (Thank God for tractors with front end loaders or a good quiet team of horses!) I can't carry a heavy fruit tree, complete with a root ball that weighs 50 pounds, up and down hill to where I want to plant it. So I tip the garden cart down on its nose, slide the root ball into it, then tip it upright. And off we go. You get the picture.

And for that longer drive, get some good tapes and CDs. You might even take classes in gardening, cheese making, or yoga. And *dream* while

you drive. You're on the way. The best of luck.

Jackie

I am planning on having a great crop of potatoes this year from my garden. I don't have a root cellar or basement. I do have some land and can dig a hole if needed. What is the best way to store potatoes??? I have even thought of putting them in a 55-gallon drum and placing it in a hole. Not sure. Any help?

Dan Dickerson

Water Valley, Mississippi

There are a lot of ways to successfully store potatoes without a root cellar. I have many of mine, a few pecks at a time. But you sure can't make French fries out of canned potatoes, so you will want to store them as long as you can. Yes, you can store potatoes and other root crops in a 55-gallon drum, although a wood barrel would be better, as it wouldn't be as apt to sweat through condensation.

When your potatoes have been dug and sorted (be very careful to reject any damaged ones, as they'll rot), spread them in a dry, shaded area to cure for at least 24 hours. **Do not** wash them. Dig a hole large enough that three-quarters of the barrel will be buried in the ground, on an angle (which allows access to the potatoes without standing on your head). Gently fill the barrel with the dry, cured potatoes, not just dumping them in, which may bruise them. Don't fill the barrel any more full than ground level. Punch at least two half inch holes on the sides of the barrel for ventilation.

Now stuff the rest of the barrel with clean, very dry straw or even crumpled newspaper. This acts as insulation and helps absorb small traces of condensation before it causes rotting problems.

Close the barrel and heap dirt over the entire excavation site to act as

insulation. Then stack bales of straw over the whole works.

Your potatoes should keep well until late spring. Only open the barrel on warmish sunny days. Potatoes are very sensitive to cold, quickly chilling, turning black spotted, and rotting.

This method will work in most climates, except where there is extreme winter cold for prolonged periods of time.

Jackie

I was reading back issues of BHM and came across an article about long-term food storage (Jan/Feb 2002). In the article, you mentioned you made something called "fried dry pea patties." These sound interesting. How do you make them?

Also, I would like to know if I could can chicken with bones (like drumsticks, thighs, etc.) I usually freeze it, but recently we suffered a power outage and I had to throw out a lot of food from my freezer. P.S. I am writing by candlelight. Our power is still off! This makes day #4.

Sarah Funk

Looneyville, WV

You are experiencing one of the "emergencies" that most of us, sooner or later, experience. Maybe it's not as dramatic as terrorists and smallpox, but to you, when it's happening, it's pretty much an emergency. Which is just why I've preached preparedness for a long, long time.

I too, lost a good part of my huge freezer-full due to a lengthy power outage, which is why I don't have one now. I can or dry most everything including chicken and other poultry, complete with the bones. This is really a time saver when we are butchering chickens, as it allows me to can many more birds in a day than I could possibly do if I deboned them all. And, as a bonus, you can debone the canned chicken at a later date, saving the bones to boil up with some of the

lesser parts, such as the backs, wings, and skin, to make a dynamite soup stock with the same jars of chicken that your stir fried dish or barbecued chicken came from.

The fried dry pea patties are unusual, and I got the recipe from my mother, who got it from her mother, etc., etc. It tastes good, too, and gives you just another option for using some of those foods in your long-term storage pantry. Here it is:

Fried dry pea patties:

2 cups cooked split peas (just tender, not mushy), mashed
1 chopped onion or 1 Tbsp. dehydrated onion flakes
a little dehydrated parsley
2 beaten egg yolks
2 Tbsp. cream or heavy mixture of dehydrated milk & water
salt, pepper, and spices, to taste

Shape into patties. Dip in flour. Chill one hour or more. Fry slowly in lard. Serve with catsup or barbecue sauce.

Here's another "different" pea recipe you might like. You may use fresh garden peas or dehydrated, rehydrated peas.

Pea patties: Line muffin tins with pie pastry and bake. Make cream sauce of 2 Tbsp. butter, melted with 2 Tbsp. flour stirred in well. Add 1 cup milk, salt, and pepper to taste. Cook 1 to 1½ cup of peas gently until just tender. Add to the cream sauce. Put a spoonful in each baked shell. You may also grate a bit of cheese on top. Serve hot.

Jackie

I've been canning for years, usually with a boiling water bath canner, occasionally with a pressure canner. Lately, because of the shape our country is in and because of your catching enthusiasm for canning, I have been doing a lot of pressure canning. My canner is about 6-years-old but hasn't been used much until

recently. It is a weighted gauge type and looks like new. My problem is that I cook on an electric stove. We don't have natural gas where I live in Maine. We can't afford a new gas stove with the propane hook up, so I am stuck with electricity. It is VERY difficult to keep steady pressure with an electric stove. While I rarely let the pressure drop below 10 pounds, it often fluctuates from 10 pounds to higher, and then back down to 10 again, no matter how careful I am. Because of this, I often lose liquid from my jars, and a lot of that liquid is grease, since I'm canning many meat dishes. The jars all seal fine. But I worry about their contents. I've been told as long as they're sealed, the contents are fine even if they are unattractive. I wonder though if the seals will last. I just canned 16 jars of barbecued ribs and I'd hate to lose them six months down the line. Do you have problems with jars losing liquids? Do you obtain a seal if they do, and how long does your seal last?

Melanie

RVNDGN@aol.com

I sympathize with your problems regulating your electric stove for canning. When I first started canning, it was on an electric stove, and I too had trouble. I solved it by switching to using my wood burning kitchen range. But for you, perhaps an easier fix would be to buy a two-burner propane stove. These are available at most discount tool catalogs, such as Harbor Freight and Northern Tool, or your local propane dealer. They cost about \$20. (They are used for "camping" and are not a typical kitchen stove, only a basic countertop, two burner unit.) Then you will just need a 40-pound or even a 100-pound propane tank with a hose and regulator and you are in business. Many propane companies simply sell you the propane and furnish the bottle at no cost. The hose and regulator are very inexpensive.

With this set-up you can home can, regulating the heat with precision. Voilà, no more boiled out liquids! And you can cook if there's a power outage, as well.

Yes, I've had liquids boiled partially out of jars I've canned. Usually when I get interrupted by something while I can and the pressure rises, then falls, as I discover the problem. It is unattractive, but I've never had any problem with the seals failing. As with all home canned food, always examine each jar before opening it to be sure the seal is tight; look at the food and smell it after opening it. Just to be sure.

Jackie

My son has been reading BHM for about a year and the very first thing he does is read "ASK JACKIE". He thinks you have all the answers to everything. So he wanted me to ask you if goats' milk can be canned at home in glass jars. We are wanting to buy some dairy goats and wanted to know if we could can the excess milk to be used at a later date.

Nancy Lynch

Nancy_LynchSurveyingCo@msn.com

Boy, do I wish I had all the answers. But those I do manage to have, I'll happily share. You're off on a great adventure and lots of fun with your new dairy goats. They're so versatile and easy to handle and house. Yes, you can home can milk (goat or cow), and I have done it with success. But you have to know that the end result does not taste like fresh milk, rather more like condensed milk. For that reason, it is really better to have your "girls" freshen, or give birth and come into milk, at different times of the year. This ensures that you have a constant supply of fresh milk.

The process of home canning milk is simple. You can either pressure can it by simply filling the clean jars to within ½ inch of the top with freshly strained milk. Wipe the jar rims clean

and dry with a clean cloth. Place hot, previously boiled lids on the jars and tighten down the ring firmly-tight. Process in a pressure canner at 15 pounds for 10 minutes. Start timing only when the canner reaches 15 pounds.

Pressure canned milk will be a tan-ish-cream color and taste "cooked," but will be fine in all cooking or mixing with chocolate milk mix.

To water bath can your milk, fill jars in the same manner. Then place in water bath canner, on rack, and cover with hot water to an inch over the jars. Bring canner to a boil. Begin timing once canner reaches a full boil, and boil for one hour. Remove jars and place on dry folded towel to cool out of drafts for 24 hours.

This milk will be a bit creamy looking and also taste "cooked," but it will be fine in all cooking or flavored drinks, such as chocolate or malted milk.

Remember that on the homestead there is no such thing as "excess" milk. Milk is only the beginning. There is ice cream, yogurts, cottage cheese, simple soft cheeses, hard cheeses, and cream cheese. Then there are the pig and calf you can raise on goat milk to butcher later for very tasty meat. And the wethers from your does that you can raise for the best chevron ever. Not to mention goat milk soap. How much fun you folks have in store for you. I'm excited, as we have a doe, due to kid in two weeks, and I can't wait to get started.

Jackie

I read in the article (A Comfortable Base Camp) that you had done about the same thing I did and sold everything before moving to Montana. Everyone I have talked to goes on about the short growing season here. From the articles you do, I don't see you having any trouble with the growing season. What is your growing season like?

What part of Montana do you live in? Do you have any more tips for someone looking to go completely off grid and start with a piece of land with a creek running through it?

**Greg
Northwest Montana**

I have to smile when you say that everyone goes on about the short growing season. For that's what everyone did, everywhere we have moved (Minnesota, northern New Mexico at 6,000 feet, and, of course, Montana). "You can't grow anything here! We tried and everything froze" is about the gist of the comments. My polite reply? "Ha! Wait and see." And those same folks came out and gorged themselves on our fresh peas, corn on the cob, and tomatoes.

No, we don't just pick a good spot. We have learned to work with the climate, not try to fight it. When you fight Nature, you cannot win.

Our homestead is in west central Montana, about halfway between Helena and Great Falls, up in the Big Belt Mountains, at 4,000 feet, above the tiny fishing town of Craig and the Missouri River. Never heard of the area? That's why we're here; it's not a popular tourist area and we love it.

Yes we have a "short" growing season...compared to Mississippi or California. But we successfully gardened at 7,400 feet (above the Continental Divide in Montana) with a growing season of less than 75 days. And we had snow every month of the year. But we had a good garden.

Some tips for short growing season are use Wallo'Waters to gain at least a month, possibly twice that, in growing season. I recently did an article for *BHM* on these very effective season extenders. They are basically a circle of plastic tubes which you fill with water and place around the plant (or seeds, such as melons). The Walls protect the tender plants down to 16°. I've had tomatoes in Wallo'Waters

when we received a foot of snow and temperatures much below freezing for two days. The tomatoes not only lived, but thrived and grew. It is April 27th, and I have had 20 tomato plants in the ground with these beauties for nearly two weeks. I can't plant unprotected tomatoes until the second week in June.

I also use mulch and clear plastic, where needed, for plant protection and growth booster.

By planting only short season, productive varieties (not just the varieties available in local stores), along with the season extenders, keeping the soil loose, fertile, and happy we manage to keep our pantry full, eat well, and enjoy our garden. No matter where we live.

Tips? Briefly: avoid debt, work hard, but enjoy life, research each project before you start it, go slowly enough to enjoy yourself, live simply, learn from your mistakes (you will make them, as we all have), and give thanks for your successes, no matter how small they seem at the time. Keep reading *BHM*, the anthologies, and back issues for help with your new projects. Good luck and happiness.

Jackie

Can eggplant be home canned? Does it need to be blanched or anything? All the canning references I have are for freezing, and I don't have a lot of freezer space.

**Jim Strokotter
Monroe, MI**

Yes, Jim, you can home can eggplant, but I'm not sure you'll like the results. Basically, it is canned like you would summer squash or zucchini. And the results are about the same: not so hot. It tends to get mushy and flavorless. One way to beat that is to can slices of eggplant in spaghetti sauce. It still is a bit soft, but much more flavorful than otherwise. Remember, when canning any

combination, such as meat and vegetables, or tomato sauce and squash, to process for the longest time for any ingredient, and also if any ingredient, such as meat or a vegetable, must be pressure canned, you must pressure can the combination.

With the tomato sauce/eggplant mixture, heat tomato sauce to boiling, add slices of eggplant and simmer five minutes. Dip out eggplant into clean widemouth jars. Fill to within one inch of the top, adding tomato sauce to cover to within one inch of the top. Adjust lids. Process in pressure canner for 30 minutes at 10 lbs. pressure (adjusting pressure for altitude, if necessary. See your canning manual).

Jackie

I am looking for a recipe for making tomato preserves. I used to make them all the time and had a recipe from the Sure-Jell box, but I don't find it there anymore.

Sel Corley
sjc34@totalzone.com

Yes, I do have several recipes for making tomato preserves, all slightly different. But here's a basic one. In the others, the spice amounts seem to differ, not much else.

Tomato preserves:

1½ qts. small, firm ripe, peeled tomatoes
4 cups sugar
¾ cup water
1 thumb-sized piece ginger root
1 Tbsp. mixed pickling spices
1 cup thinly sliced lemon without the seeds

Add the water, sugar, lemon, and spices (tied in a spice bag) to a large sauce pan. Simmer 15 minutes. Add the tomatoes and cook gently until the tomatoes become transparent. Stir often to keep from sticking. Cover and let stand overnight in cool place. Remove the spice bag. Drain, reserving the syrup. Set the tomatoes and

lemon aside. Boil the syrup until hot and it starts to thicken. Add the tomatoes and lemon back in. Boil one minute. Pour hot into hot half pint jars, leaving a quarter inch of head space. Wipe jar rims clean. Place hot, previously boiled lid on jar and screw down ring firmly tight. Process 20 minutes in boiling water bath.

Jackie

Back in the 1920s when I was a kid, we used to have something called graham mush for breakfast occasionally. It was made from ground wheat which was sold in bulk in five-pound amounts and packaged in a plain brown paper sack which was sealed shut. This mush was highly flavorful and delicious. When I purchased my grain grinder to grind wheat for bread, I anticipated making mush also with some of the meal but was disappointed to find it absolutely tasteless!

Thinking that perhaps the trouble was caused by using hard wheat, I bought a few pounds of soft wheat, but the results were the same. Help!

Genevieve Gray
South Elgin, IL

Graham mush is one of the easiest and most basic uses for home ground wheat. (Graham simply means "coarse" flour.) Mix 1 cup of graham flour with ½ tsp. salt and mix with enough cold water to make a paste. Then slowly add to 2 cups rapidly boiling water, stirring constantly. This is most easily done in the top of a double boiler to prevent scorching. Cook until it tastes done, perhaps 20 minutes or more. Place hot into a bowl, adding cream and sugar or perhaps fruit. It is really good, much better than Cream of Whatchamacallit! Perhaps you forgot to add salt or to cook it enough to bring out the flavor? Or did you add sweetening? It is pretty bland, without cream and sugar. Better luck next grinding.

Jackie

Correction

On page 54 of *Issue No. 82* (July/August 2003) of *BHM*, in the article titled *Homemade*, I had a recipe for *Grandma's rhubarb pie*. The ingredients list erroneously calls for "1½ cups plus 1 heaping Tbsp. flour." The list should call for "1½ cups of **sugar** plus 1 heaping Tbsp. flour."

The directions that follow the ingredients should read, "...combine 1½ cups of **sugar**, 1 heaping Tbsp. flour..." etc.

My thanks to the reader who discovered this, and I apologize to anyone I may have inconvenienced.

Jackie

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Letters

(Dear Readers - Thank you for writing to Backwoods Home Magazine. The opinions and suggestions we receive from our readers are very important to us. We regret that we are no longer able to print or individually respond to every letter received due to the volume. We do read every letter received, and pass them along to the editor or writer concerned. We print a selection from our mail that best represents the views and concerns of our readers.

— The Editors)

Winter driving

My oh my, your Jan/Feb 2003 issue was so full of wonderful articles, it was a delight! I have had a difficult time of it financially in the past six months, and so had not seen an issue of your magazine for a while. This one was definitely worth the wait. I think the wise thing to do is just subscribe for the year. Thanks.

The article about driving in Winter Snows was excellent, and for me, a western Washington transplant to snowy north Idaho, I can verify it's worthwhile reading. The narrow and twisting one-lane back road into my 20 acre parcel is a grueling 8/10ths of a mile in snow and ice. Made from an old logging trail, it seems to be purposely designed with a sharp curve just before every steep hill, and the curves have conveniently placed ditches on either side in which to bury the unskillfully driven vehicle. Last summer as I drove my visiting sister up the road to my place, we fell into fits of laughter as I described every place in the road where I had stuffed my car or truck into a snowbank in past winters. And that is only the years since someone else bought property on the road, and they have a plow. I bless my neighbors each winter, as they plow past their own driveway and right up the road to my own door. There is nothing I wouldn't do for those kind folks. Before they moved into the area, I merely parked my rigs on the county road and walked in pulling a sled with whatever

supplies I needed. I am getting better at driving in this white stuff, and always carry warm clothes and a tarp, a flashlight with good batteries, and nowadays, a cell phone. I have learned four lessons. Don't drive fast; don't step on the brakes; don't stop...unless you are being pulled into the snow bank. Then I stop right away so I don't manage to really bury myself off into the deep snow. I use the shovel, cat litter, and chains if the situation warrants. I keep a number of wooden boards of various lengths in the trunk for going across ice and mudholes, which can get axle deep during thaws. I have a set of the newer style "Angelwing" chains for both the car and truck. These are more durable than the old cable chains, but can be put on without moving your vehicle, a lifesaver if you're already stuck! (It was almost impossible for me to put the old style heavy chains on my car, with so little clearance under the wheel well. I would be half frozen and close to tears.) They must be put on carefully however. If you put them on wrong, they will be ruined, and you don't get free replacements for these expensive beauties. Just drive about 10 feet and recheck them right away, then again a short distance later. They go on and come off quick, and I usually come to plowed road by the time I reach the county road; it's even often bare when my own road needs chains to drive on.

Also loved the little article on building a "Hingeless gate." I put up field fence around a large perimeter area surrounding my compound. At 4' high, deer were constantly coming in to graze on my veggies and extensive flower beds. I have since put up an additional 5' of meshed deer fence which keeps them out, but wanted more access to the surrounding

woods, which would need gates in various places, very labor intensive to build. I now know what to do. Thanks again.

Sue Bale, Priest River, ID

Defeating debt

Say it ain't so, Dave! Tell us it's a belated April Fool's joke! But don't tell me that you meant to include a how-to article on THEFT and irresponsibility! Yes, I said THEFT!

I'm referring to the article by Don Chance in the latest issue (#82) entitled "Defeating Debt."

Bankruptcy is no more than THEFT that is being paid for by those of us that work hard and pay our bills. Especially those of us that have enough self control to save enough money to buy the things we want instead of yelling "Charge It!" If you wanted it, bought it, and agreed to pay for it, then it is ALWAYS your responsibility to pay the money back. Period!

And granted, a very small number of hardship cases should be given a chance to put their creditors "on hold" until they can get back on their feet and then repay what they owe. But this entire article is about how to get away with not paying anything instead of how to use it as a tool to take the pressure off so you can pay your debts.

Dave, I've been a long time reader and subscriber, and this isn't going to change that, but the magazine's philosophy has always been responsibility and self-reliance, just as the subtitle says. So why include an article on THEFT and irresponsibility? I'll be very disappointed and surprised if a large portion of BHM readers don't respond in kind.

The only way to defeat debt is not to create it!

David Spangler
mymail@daraq.com

Yeah, I agree. — Dave

Looney publication

I mistakenly subscribed to your magazine with the idea that it might be useful for our back-to-the-farm, do-it-yourself lifestyle. I did not know that it was a right-wing looney publication. For your information, "liberals" are no worse than "conservatives." They both have loopy ideas. They both have good ideas. The main problem with both is their faith in big government. Whether the government is there to promote laziness and unwed motherhood through welfare, or to promote corporate crime through NAFTA and tax breaks for the rich, is neither here nor there. They both stick their hands in my pockets. Trying to fight multinational corporations is no easier than trying to fight big brother...

Mike Miller, Gettysburg, PA

Read a few more issues. We have more in common than you think.
— Dave

Jackie Clay

Please send me the 15 selected issues, as well as Jackie Clay's CD-ROM.

Please let Jackie Clay know that her abilities make Martha Stewart look like an amateur. The only phrase I wish Jackie wouldn't emulate of Martha Stewart is "101."

I really enjoy your magazine, especially how-to articles. I live on an acreage and have goats and mini horses.

All phases of the homesteader life interest me.

Lorraine Dotson
Charles City, IA

Your current issue just arrived as I am trying to find new ways to advertise the little farm I am selling. I subscribed to your magazine because of the appealing name when I moved to the farm, as I subscribed to several other "farming" magazines. I have pretty much abandoned the other

magazines, but am keeping yours because whatever goes on in my life is usually addressed in one way or another in each new issue of Backwoods Home. Talk about timeliness!

Thanks for your articles. I particularly enjoy those written (and illustrated by her photographs) by Jackie Clay. I also love to see her friendly smile, it reminds me to be thankful for living in the U.S. and having the freedom to make lifestyle choices. And to read magazines which help one do just that.

Marie-Noëlle C. Long
Jasonville, IN

Storing insects in flour and sugar

I am writing in response to Jackie Clay's response to a reader's question about storing flour and sugar. There is a publication printed by the Food and Drug Administration called "Food defect action levels." This publication discusses what levels of natural or unavoidable defects in foods for human use, that present no inherent hazard to health, are permitted. There are several things listed including insects and insect parts. Food manufacturers that exceed these levels may be subject to enforcement action by the FDA.

In the section on page eight concerning cornmeal there is an acceptable defect level that consists of less than "one or more whole insects (or equivalent, per 50 grams. Also an "Average of 25 or more insect fragments per 25 grams." This includes eggs, as acceptable. As there are slightly less than 30 grams in one ounce that would mean that these amounts are acceptable in less than two ounces. Multiply two ounces by ten pounds and you can see that you get a lot of junk. Another argument for grinding your own.

Also listed on page 27 under wheat flour, the acceptable amounts are listed as less than an "average of 75 or more insect fragments per 50

grams." Again, insect eggs are considered as one of the things that are included under "insect fragments." The FDA claims that these cause no health problems, and maybe they don't, but here's the rub. In these products particularly, you will find eggs from the meal moth which will hatch out inside the bag of flour or meal occasionally, no matter how well you store them. You are not keeping the meal moths out by sealing them up because the eggs are already there before you seal them. For those of you that must buy store bought products there is a way to keep these eggs from hatching. Before sealing or storing your meal or flour, place the bags in your freezer for at least forty-eight hours, much more for a 25-pound bag, then bring them to room temperature and seal them. The eggs are still there but they won't hatch. This may be unhandy for the 25-pound bags but the 10-pound bags cause me no problem. Anyone interested in getting a copy of this booklet may obtain one by writing to: Industry Activities Staff (HFS-565), Center for Food Safety and Applied Nutrition, FDA, 200 "C" Street SW, Washington, DC 20204. They ask that you provide a self-addressed mailing label to expedite shipment.

Garnett E. Doyle, Clarkson, KY

Blacks crying the blues

First I must say that Backwoods Home is absolutely the best magazine of its kind in existence in this country and I hope you always keep up the good work.

As to this issue of Blacks crying the blues about how "our ancestors" were treated. The past is past and nobody can turn the clock back. This is the present, get used to it! The Blacks are constantly crying how bad their ancestors were treated as if they were the ONLY ones ever mistreated. That's the biggest pile of Buffalo Dung (with respect for the American Indian) I've ever heard! Yes, the

American Indian! What about the Jews? I doubt there were any Blacks in the Great Inquisition, The Renaissance! Look what Pol Pot did. Yet descendants of all these cultures live right here in America and I don't hear them crying about "my ancestors!" Oh, my great, great, great, great Grandfather was beheaded because he was a Christian! I deserve a "free ride!" He was so mistreated!...

Gene McNew, Vincennes, IN

Goats

Please renew my subscription for another 3 years. I love Backwoods Home so keep up the good work. I recently got some goats and I would love to see more articles on them especially about illness and health. Also I would love to see articles on how to cook goat and how to butcher them. I thank you.

Debby Widener, Haughton, LA

There are lots of articles on goats in the anthologies. You might want to get one of our indexes (see page 97) to locate them. — Dave

Great history lesson

I especially enjoyed your Think of it this way... in the May/June issue of Backwoods Home (Biological and chemical weapons through history.) Being somewhat of an ancient, medieval, and early American history buff, I was familiar with much of what you wrote, but much of it I was not! (Particularly some of the staggering numbers.) What a great history lesson!

Bill Raimer, Battle Ground, WA

Main library

Our patrons and many on our staff love your magazine. Even our issues from past years circulate consistently.

Down east Maine is pretty rural for the most part and jobs are scarce except in the summer with the tourist industry. Many people try to survive all year on their summer income, so

the methods of self-sufficient living shown in BHM are essential for getting through our long, cold winters.

The only way I can imagine that you could serve our community better would be to publish BHM monthly. Unfortunately, that might put it out of our price range and then everyone would miss it. Keep up the great work.

Julie A. Gillette, Periodicals
Ellsworth Public Library
Ellsworth, ME

ASG legacy

I am from the ASG legacy like many of us devoted Backwoods Home readers. And for the life of me I can't really remember what I saw in that defunct magazine.

I thought I enjoyed it, until I got yours. And unlike ASG when I get through reading each of your issues (and sharing it with other like-minded individuals) its tattered remains are barely discernible.

I've taken to xeroxing all the articles that I like (which is just about every one) and filing them into 3 ring binders under all the different topics: gardening, solar power, water-treatment, pumping, storage, etc., diesel, livestock, wild edibles, country life, canning, baking, building, long term food storage, ask Jackie (one of my favorites) etc. etc.

I have 6 binders now, and plan to have more.

I consider this my home plan as I am currently incarcerated for assaulting people that broke into my home. (Figure that one out Ayoob) But the good news on that front is the judge in my case finally admitted to misleading the jury, and if the morons in Superior court ever get off their butts and do their jobs I should be out of here soon.

If not my minimum is up Nov. 28th 2003.

Anyway I've enclosed \$21.95 for renewal on my subscription and let me tell you, unlike the guy in Club Fed (federal prison) who complained about working in a sweat shop for

\$1.00 an hour, we here in state (PA) prison are only allowed a maximum of .42¢ an hour for any job in the prison. I am disabled and work in the prison library, and I'm at the low end of the scale at only .24¢ an hour max 6 hours per day 5 days a week, so you can imagine how long it takes me to save up enough to be a subscriber....

Gerard Repko
Waynesburg, PA

Got any corn?

A duck walks into a hardware store and asks the cashier "You got any corn?" The cashier replies "No, we are a hardware store, we don't carry corn." The next day the same duck walks into the hardware store and says, "You got any corn?" The cashier replies "No, I told you yesterday, we don't carry corn." The next day the same duck walks into the hardware store and says, "You got any corn?" The cashier gets angry and says, "For the third time, we don't carry corn! If you ask one more time, I'm going to nail your feet to the floor!" The duck walks in the next day and says to the cashier "You got any nails?" The cashier is surprised and says, "No, as a matter of fact, I sold the last box of nails today." Then the duck says, "You got any corn?"

Glaraven Quickless
Bowling Green, IN

Reaching for our dream

A while back I called to order some books from your book selection that were interesting to me, and when I did the gentleman who took my order asked me if I was a subscriber. At the time I was not. He convinced me to give your magazine a try.

I must say I have completely enjoyed every issue I have gotten so far. Although there have been a few articles that I was not in complete agreement with, but being an open minded person, they don't bother me. Those who really, truly disagree with

something, I believe are not open minded enough to accept the fact that not everyone thinks like them. I have seen the letters from people who say "cancel my subscription, your magazine stinks" and those are the folks who will never achieve a truly independent lifestyle and will be hooked up to the grid forever.

My husband and I are working on our debt issues, and it will be FIVE YEARS, before we will be able to pursue our dreams of freedom from gridlock.

We are working on our little nest egg right now and plan on purchasing our land with cash, and not financing any of it. When our current debts are fully paid off, it will free up 80% of our current income.

(We have a lot of debts.) Bankruptcy was not an option for us, although we did consider it. It just wasn't the right move for us. Five years really isn't all that long.

Although we will unfortunately not be able to live high in the mountains or way in the outback, we will, I think be able to live far enough from the city to make our lifestyle dreams a reality.

I must maintain a job at least enough to have medical insurance as my husband's medications are very expensive if we have to pay cash for them. We will at least be able to enjoy our little space and be able to pursue our ultimate dream of traveling. Due to his medical needs we must maintain a home of some sort so we can not become the full time travelers we had wanted to become. But we will be able to travel quite a bit.

Our dreams are a little house (nothing fancy) that is free from the grid and fully independent of it. We also want to raise as much of our own food as we can. Nothing tastes better than food you raised yourself.

We currently do not buy any of our meat from the supermarkets, as there are still plenty of family farms around here who sell their extra ani-

mals. We take full advantage of little roadside stands all summer long. Shopping around at them will give you a great variety and reasonable prices most of the time.

Our dreams are slowly taking shape, and in a few more years I do believe we will have reached them.

Thanks to your magazine, we know that we are not the only ones reaching for those dreams of freedom.

Lee Robertson, Gary Berger
Webberville, MI

Supporting the troops

My two cousins who are truck drivers in the Michigan Army National Guard were called up and sent to Kuwait. Shortly after they left as I was putting together two separate care packages for them I came across your jokes on France. I printed out two separate versions. The one package **finally** got there. Their whole unit loved those jokes.

As a member of the National Guard who was not called up, I would like to take this opportunity to thank you and your staff for the way you have supported our men and women in uniform.

I started reading your magazine about 10 or 11 years ago, and find it an indispensable part of my library.

David White
DWhite1637@aol.com

Fully informed jury

First of all, it is my wife that is the subscriber to your magazine. While I find many useful bits in every issue (especially Mr. Ayoob's column as he certainly knows which end is up), I find myself in serious disagreement with the editorial slant of the magazine (I'm a 16 year army vet who grew up rural and is still a lefty. Go figure...) This is usually not an issue for me — after all it is my wife who wishes to fund you, not me. However

the article in the July/August 2003 issue that arrived today requires me to respond.

Jury nullification is an evil that must always be avoided. Period. In our history the only thing it has done is keep the KKK from receiving justice for their lynching. There is no case where it has been truly justified. Even where a law has been incredibly wrong, it is not the jury's duty to deal with that issue — rather it is, if you look to the history of English and American Jurisprudence, the Judge's job. The jury must say "yea" or "nay" based on the law as it exists. It is the Judge who must modify that according to our traditions. Jury nullification only leads to a chaos that certain elements, especially in the right wing of modern American politics, would enjoy using to continue to rape the constitution even as they have done since November 2000.

In the end I would simply remind you all of the words attributed to the Rev. Martin Niemoller in 1945:

"First they came for the Communists, and I didn't speak up, because I wasn't a Communist.

"Then they came for the Jews, and I didn't speak up, because I wasn't a Jew.

"Then they came for the Catholics, and I didn't speak up, because I was a Protestant.

"Then they came for me, and by that time there was no one left to speak up for me."

Remember this when Mr. Ashcroft comes knocking, asking for your list of subscribers. If he hasn't yet, don't worry, he will, soon enough.

William Barnett-Lewis
wlewis@mailbag.com

It's a serious matter when Americans don't know the purpose of juries, why jury nullification is important, or what it has already accomplished. First, in the Anglo-American tradition, jury trials go back at least as far as the Magna

Carta. The purpose of the jury then, as now, was not to be score keepers for the prosecution and the defense, as you apparently suggest they should be. They were put in place as *a safety* between the people and the state. They were meant *not only* to bring criminals to justice, but also to keep the people safe from bad laws. It is clear in the Magna Carta and in both the English and the American *Bill of Rights* that the jury system is meant to *protect* us from the state, not as an arm of the state.

The problem with juries in the South, to which you allude, wasn't jury nullification, it was because of a corrupt legal system which included an all-white jury system, an all-white set of judges, and an all-white set of prosecutors. Had only the juries been selected fairly, i.e., randomly, including blacks, southern justice would have been different. How many chain gangs—which were almost exclusively black—would there have been if blacks were allowed jury trials that were likely to have at least one black on it? (That's another thing jury nullification is supposed to protect us from: laws applied unfairly.)

In fact, to say jury nullification wouldn't have benefited southern blacks back then is to say each and every southern white was a bigot. I know this is not true. That statement, in and of itself, would be "racist." However, had all southern whites known of jury nullification, though it may still have been difficult to get convictions against whites who lynched blacks, it would also have been difficult to get acquittals. This alone would have raised a red flag for southerners who truly wanted justice.

Historically, the Founding Fathers were uniformly in favor of jury nullification because they understood it is a bulwark between the people and the state passing bad laws. Not only is there virtually nothing in their writings condemning it, many of

them commented on the importance of the individual voting his conscience, even when it flew in the face of the letter of the law. (And the argument that we should have "obedient" juries that convict people under bad laws while we wait for legislators, who are often small-minded, career oriented, and in debt to special interests to change the law, is saying it's okay to spend decades ruining people's lives while hoping someday the legislature *may* get around to it.)

As to its historical accomplishments, there are many instances where Fully Informed Juries, practicing jury nullification, have shined. Among them are:

- Jury nullification brought about freedom of religion as a result of the trial of William Penn when he was convicted of preaching an illegal religion—Penn was a Quaker. When the all-male jury returned a "not guilty" verdict, the judge ordered them imprisoned until they rendered a verdict the state wanted. They refused and, after spending some time locked up, they were finally freed, as was Penn.

- In the trial of newspaper publisher John Peter Zenger, in New York, it established the concept of a free press. Here, the jury was all but instructed to find Zenger guilty of libeling governor Cosby. Zenger's lawyer, Andrew Hamilton, pointed out that what he had published was true. The state argued that truth was not a valid defense. The jury disagreed and refused to bring the instructed verdict.

- It undermined the Runaway Slave Act when juries in the North refused to return runaway slaves to the South even though the law mandated that runaway slaves had to be returned to their masters. The federal government finally got around this by illegalizing jury trials in cases involving runaway slaves once they realized juries stood in the way, the same way Ashcroft today has made sure there

will be no jury trials in the so called War on Terrorism.

- It brought about the death of Prohibition when juries refused to convict individuals under the insane 18th Amendment and the equally crazy Volstead Act.

Today a fully informed jury could repeal bad drug laws, unconstitutional gun laws, invasion of privacy laws, etc.

By the way, for those who believe jury nullification would result in chaos: From the founding of this country and through most of the 19th century, juries were routinely told not only was the defendant on trial, but so was the law. There was no chaos, there was no social disorder, and laws that made sense were still enforced, that is, murderers, rapists, robbers, etc., were still convicted and went to jail. And there are many fewer crazy laws because it was difficult to get a conviction under crazy laws. But that's no longer the case, today, when jurors are not informed of their legal right to dissent when the law is wrong, unfairly applied, or excessive.

Jury nullification is not a right wing/left wing issue. It has champions on both the left and the right. If practiced it would send bad drug laws, asset seizure, gun control, and many other abominations to the dustbin of history of "bad laws we'd rather forget."

For the last hundred years, as new agencies (IRS, OSHA, etc.) create regulations and as new types of laws (e.g., family law) are created they specifically exclude trials before a jury of your peers. Men like John Ashcroft do not want jury trials under what is being passed off as "anti-terrorism legislation" because they realize how difficult it will be to get convictions under the *PATRIOT Act* when jurors realize how many of their rights we have to give up.

And, as to Niemoller's quote, a jury nullifying a bad law *is* a jury *speaking up* against bad laws. This is

your chance to *speak up*. With Fully Informed Juries to stand between the people and bad laws, neither Ashcroft nor anyone else who would trample our rights would dare come knocking on our door. However, get rid of jury nullification and we may as well not have jury trials at all. Preprogrammed computers could do a better job. And, if Ashcroft does come and knock on my door, and if I'm allowed a jury trial, and you're on my jury, I hope *you* will not sit there and follow the judge's instruction, like a sheep, but that you will speak up for me, if the law is unfair or unconstitutional, as I would speak up for you. You will, won't you?

What I would suggest is you write to the Fully Informed Jury Association, P.O. Box 59, Helmville, MT 59843, or call them at (406) 793-5550, or go to <http://fija.org/> and read the history of the jury and why Fully Informed Juries, acting as they should, are a bulwark between the state and the people, and you may find yourself reconsidering your position.

— John Silveira, Senior Editor

Ultraviolet water purifying system

I would very much appreciate an article explaining the ultraviolet light purifying system you have on the water line leading into your house. We, too, have a gravity fed water system from our own spring, and this past year for the first time in the known 100 year history of our place, we tested positive for bacteria.

Some questions we'd like answered: 1. Where purchased, cost, brands, and how it functions, what does it purify? 2. Must it be installed by a plumber or electrician and how difficult to install? 3. We have a solar system. How much electricity does it take, could it be powered by its own solar panel? 4. How big a system can it purify? Our main line from the spring is a 2-inch line and the spring runs at 17 gal. a minute.

But 1-inch lines come into the house and only runs on demand. 5. We have a particle filter, but on only the line into the house. Water used in irrigation is not filtered. How big of a particle filter do you have? 6. Anything else you think of, pro or con.

I think this might be a welcome article in the magazine for other readers besides ourselves.

Marjorie Burris, Mayer, AZ

Issue no 71 has a detailed article by Jeff Yago on just such a system. This type of system is also used on the small grammar school my children once attended, so it's pretty good. Coincidentally, I am in the process of replacing the storage tank by my spring, plus the 200-yard underground pipe going from the tank to the water system filters. It's an old tank and pipe that I've had to repair many times. The other day I turned on my garden hose and two baby salamanders came out. I'm also redoing the collection area by my spring, as the settling barrels there are all rusted out, the fence to keep out the cows is in disrepair, and everything else about it is so jury-rigged to make it work that it's just time to redo the whole thing. Perhaps your 100-year-old system needs a look at too. At any rate, the article should answer your questions. — Dave

More self-reliant

I've loved reading everything for years and then over the past two years things fell apart on me and I have had some regaining to do but even through all this, your magazine has inspired me. Fortunately for me I was able to find it in my local library. However, that does not compare with having it on hand to check on information from the articles.

I have been a firm believer for most of my life that we cannot count on the things we take for granted. Water, sources of heat and light, etc. Coming from a depressed economic

family makes one think more of these things, I'm sure. But due to the resources of my parents, we never lacked for food or other necessities. During my parenting years, I tried to instill these ideas in my daughters which seems to have gone over their heads (except perhaps for one). Now with the world seemingly falling apart I am more determined to be less at the mercy of the utilities and more in charge of my life. My husband fights me on every effort for conservation, then complains because of the bills to be paid. He just doesn't get it.

You and many of your writers have stated before and in many different ways that we should take more control of our own lives and destinies. I think that those who haven't heeded those warnings are in for some rough times.

CJ Bartlett, Mount Gilead, OH

No apology necessary

In issue #81 you apologized for producing such a gloomy issue. While your concerns might be understandable, I disagree with your apology. BHM is in our home and read cover to cover by my wife and I. We subscribe to your magazine because of the skills we can learn and put into practice. In issue #81 the topic was Terrorism. It was timely and not over-dramatized. You would need to apologize if you never covered the hard topics. You even would need to apologize if you "assumed" your readers had all the necessary knowledge on terrorism and how to protect our families. Never apologize for saying what needs to be said, when it needs to be said. If we want fluff we could read "Sunset" or "Better Homes and Gardens." Your style makes us subscribers for the long run.

Russ and Ann Williams
Payson, Utah

The last word

Gun control, race, and rotten politicians

Is gun control really about guns? Sounds like an odd question on the surface, but it's really right on target. In fact, the answer is: No, gun control is not really about guns. It's about failed social programs, the destruction of the black family in America, and the rotten politicians who are responsible.

The "welfare handouts in exchange for votes" schemes began in the 1930s with Roosevelt's New Deal, and they coincided with the beginning of the dissolution of the American black family. Although discriminated against back then, blacks had about the same percentage of intact family units as white families, and as a race black crime was about the same as white crime. Today, thanks to decades of accelerating "welfare for votes" social engineering, the black family unit in the ghetto is history (welfare checks have replaced fathers) and the black crime rate is manyfold that of whites.

The welfare checks not only destroyed the black head of household in the ghetto, but also the black family's self respect and its ability to be self-reliant. As it does with most poor, dependent, fractured families, it lead to an increase in crime. But rather than admit their horrible mistakes in making people dependent on handouts rather than on themselves, the politicians have claimed that guns are responsible for the high crime rate in America.

The test is put to that lie by simply subtracting out minority crime statistics in America, and America is left with a crime rate that is lower than most Western European countries. This despite the fact that gun ownership among American whites is the highest in the world. The low rate of violent crimes is not just a white phenomenon either; gun crimes among middle and upper-class blacks is comparable to that of whites.

But politicians don't want to admit they have cynically destroyed a race to take advantage of their votes, so they (and you know the politicians I'm talking about) perpetuate the myth that guns cause crime.

The original intent of the social welfare programs *may* have been good: create a huge welfare state that would save the poor, particularly the black poor, but I believe the real motive was to buy a huge block of votes for liberals—read that as the Democratic Party. The latter half of the plan worked fine: most poor now vote Democratic, and 95 percent of blacks do. But, as many predicted, the welfare state brought ruin to the very people it was supposed to benefit. It resulted in:

- welfare dependency that now spans generations
- the dissolution of the family

- skyrocketing crime

Rather than admit their mistake, politicians set out to make it taboo to point out that this nation's bloated violent crime rate has become mostly an ethnic phenomenon. Rather than questioning their failed social programs they have chosen to blame guns. Their new mantra became, "If the guns go away, the social programs will succeed." Never mind that the cities that have the most restrictive gun control have the highest crime rates, and that states that have loosened the requirements for concealed carry permits have seen a subsequent drop in their own crime rates.

In the meantime, the liberal media distorts the issue. If a gang of black youths do a driveby shooting in L.A. and kill several children, it's treated as local news, but if a white high schooler shoots a fellow student in Nebraska, Iowa, or New Hampshire, it becomes national news. Why? Because the mainstream media (which is overwhelmingly liberal and anti-gun) seizes on the unusual to promote the lie that guns cause crime.

But the truth is that black youths kill more other blacks in one year than whites killed by lynching in the South in the 20 years when lynching was most common, from 1920 to 1940. After Columbine one black mother asked what all the fuss was about, saying these things happen everyday with black kids. Speaking before blacks, Rev. Jessie Jackson once said that when he's walking alone in a city and hears footsteps coming up behind him, he hopes that, when he turns around, he'll find a gang of white kids rather than a gang of black kids.

Here's the truth: Guns don't cause crime, and poverty doesn't cause crime. But the nanny state with its destruction of the individual and the family does because this skyrocketing crime all began with the welfare state and the destruction of poor black families.

Quite simply, our troublesome crime rate is driven by destructive social policies that are now kept in place to buy votes, and gun control is an attempt to deflect criticism from these liberal failures and to pretend the cause of all these failures is an inanimate object—the gun. In truth, liberals don't really care about guns except as a scapegoat. I wouldn't be surprised if they really don't even want guns to go away because as long as they're around they can blame the inanimate object and remove the focus from the real cause.

For all of his faults, Louis Farrakhan sees the truth behind the dependency of blacks on white liberals. His message: Turn your backs on them, and go home and take control of your families and neighborhoods. What could be scarier to a white liberal, for whom the black vote has become like a narcotic, than for blacks to discover they should become as self-reliant as most of their white neighbors? Δ

— John Silveira